HCD-GRX80/RXD8/RXD8S

SERVICE MANUAL

AEP Model
HCD-RXD8/RXD8S
UK Model
HCD-RXD8
E Model
Australian Model
HCD-GRX80

Photo: HCD-RXD8 (SILVER)

HCD-GRX80/RXD8/RXD8S is the tuner, deck, CD and amplifier section in MHC-GRX80/RXD8/RXD8S.

This stereo system is equipped with the Dolby B-type noise reduction system*.
* Manufactured under license from Dolby Laboratories Licensing Corporation.
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CD SECTION	Model Name Using Similar Mechanism	HCD-GRX8/R800/RX88/RX99
	CD Mechanism Type	CDM38LH-5BD32L
	Base Unit Type	BU-5BD32L
	Optical Pick-up Type	KSS-213D/Q-N
TAPE DECK SECTION	Model Name Using Similar Mechanism	HCD-GRX8/R800/RX88/RX99
	Tape Transport Mechanism Type	TCM-230AWR1/230PWR1

SPECIFICATIONS

Amplifier section

HCD-RXD8S/RXD8:
DIN power output (rated)
80 + 80 watts
(8 ohms at 1 kHz, DIN)
Continuous RMS power output (reference)
100 + 100 watts
(8 ohms at 1 kHz, 10% THD)
Music power output (reference)
170 + 170 watts
(8 ohms at 1 kHz, 10% THD)

HCD-GRX80:
The following measured at AC 120, 220, 240 V 50/60 Hz
DIN power output (rated)
160 + 160 watts
(6 ohms at 1 kHz, DIN)
Continuous RMS power output (reference)
200 + 200 watts
(6 ohms at 1 kHz, 10% THD)

Inputs
VIDEO IN: (phono jacks) voltage 250 mV, impedance 47 kilohms
MD IN: (phono jacks) voltage 450 mV, impedance 47 kilohms
MIX MIC: (phone jack) sensitivity 1 mV, impedance 10 kilohms

Outputs
MD OUT: (phono jacks) voltage 250 mV impedance 1 kilohm
PHONES: (stereo mini jack) accepts headphones of 8 ohms or more
SPEAKER: accepts impedance of 8 to 16 ohms
SURROUND SPEAKER: accepts impedance of 16 ohms
SUPER WOOFER: (except for HCD-RXD8S/RXD8) Voltage 1 V, impedance 1 kilohm

CD player section

System: Compact disc and digital audio system
Laser: Semiconductor laser (λ=780nm) Emission duration: continuous
Laser output: Max. 44.6 μW* *This output is the value measured at a distance of 200 mm from the objective lens surface on the Optical Pick-up Block with 7 mm aperture.
Wavelength: 780 – 790 nm
Frequency response: 2 Hz – 20 kHz (±0.5 dB)
Signal-to-noise ratio: More than 90 dB
Dynamic range: More than 90 dB
CD OPTICAL DIGITAL OUT (Square optical connector jack, rear panel)
Wavelength: 660 nm
Output Level: –18 dBm

Tape player section

Recording system: 4-track 2-channel stereo
Frequency response (DOLBY NR OFF): 40 – 13,000 Hz (±3 dB), using Sony TYPE I cassette
40 – 14,000 Hz (±3 dB), using Sony TYPE II cassette
Wow and flutter: ±0.15% W.Peak (IEC)
0.1% W.RMS (NAB)
±0.2% W.Peak (DIN)

Tuner section

FM stereo, FM/AM superheterodyne tuner

FM tuner section

Tuning range: 87.5 – 108.0 MHz
Antenna: FM lead antenna
Antenna terminals: 75 ohm unbalanced
Intermediate frequency: 10.7 MHz

UKV tuner section
(3 band (FM-AM-UKV) models only)

Tuning range: 65.0 – 74.0 MHz
Stereo plus

— Continued on next page —

COMPACT DISC DECK RECEIVER

MICROFILM

SONY®

AM tuner section

Tuning range	
2 Band type:	
European models:	
AM:	531 – 1,602 kHz (with the interval set at 9 kHz)
Other models:	
AM:	531 – 1,602 kHz (with the interval set at 9 kHz) 530 – 1,710 kHz (with the interval set at 10 kHz)
3 Band type:	
Middle Eastern models:	
MW:	531 – 1,602 kHz (with the interval set at 9 kHz)
SW:	5.95 – 17.90 MHz (with the interval set at 5 kHz)
Other models:	
MW:	531 – 1,602 kHz (with the interval set at 9 kHz) 530 – 1,710 kHz (with the interval set at 10 kHz)
SW:	5.95 – 17.90 MHz (with the interval set at 5 kHz)
Antenna	AM loop antenna
Antenna terminals	External antenna terminal
Intermediate frequency	450 kHz

General

Power requirements	
European models:	230 V AC, 50/60 Hz
Australian models:	230 - 240 V AC, 50/60 Hz
Israeli and Thai models:	220 V AC, 50/60 Hz
Mexican models:	120 V AC, 50/60 Hz
Other models:	120 V, 220 V or 230 - 240 V AC, 50/60 Hz Adjustable with voltage selector
Power consumption	
HCD-GRX80/R880:	190 watts
HCD-RXD8S/RXD8:	220 watts
Dimensions (w/h/d)	Approx. 280 x 360 x 395 mm
Mass	
HCD-GRX80/R880:	Approx. 12.2 kg
HCD-RXD8S/RXD8:	Approx. 10.5 kg

Design and specifications are subject to change without notice.

CAUTION
Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

Notes on chip component replacement

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

Flexible Circuit Board Repairing

- Keep the temperature of soldering iron around 270˚C during repairing.
- Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
- Be careful not to apply force on the conductor when soldering or unsoldering.

Laser component in this product is capable of emitting radiation exceeding the limit for Class 1.

This appliance is classified as a CLASS 1 LASER product. The CLASS 1 LASER PRODUCT MARKING is located on the rear exterior.

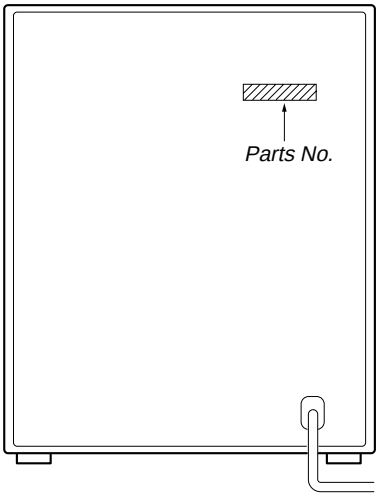
CAUTION : INVISIBLE LASER RADIATION WHEN OPEN AND INTERLOCKS DEFEATED. AVOID EXPOSURE TO BEAM.
ADVARSEL : USYNLIG LASERSTRÅLING VED ÅBNING NÅR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION. UNDGÅ UDSAETTELSE FOR STRÅLING.
VORSICHT : UNSICHTBARE LASERSTRAHLUNG. WENN ABDECKUNG GEÖFFNET UND SICHEREITSVERRIEGELUNG ÜBERBRÜCKT. NICHT DEM STRAHL AUSSETZEN.
VARO! : AVATTAESSA JA SUOJALUKITUS OHITETTAESSA OLET ALTTIINA NÄKYMÄTTÖMÄLLE LASERSÄTEILYLLE. ÄLÄ KATSO SÄTEESEEN.
VARNING : OSYNLING LASERSTRÅLING NÄR DENNA DEL ÄR ÖPPNAD OCH SPÄRREN ÄR URKOPPLAD. BETRAKTA EJ STRÅLEN.
ADVERSEL : USYNLIG LASERSTRÅLING NÅR DEKSEL ÅPNES OG SIKKERHEDSLÅS BRYTES. UNNGÅ EKSPONERING FOR STRÅLEN.
VIGYAZAT! : A BURKOLAT NYITÁSAKOR LÁTHATATLAN LÉZERSUGÁRVESZÉLY! KERÜLJE A BESUGÁRZÁST!

This caution label is located inside the unit.

SAFETY-RELATED COMPONENT WARNING !!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

MODEL IDENTIFICATION
— BACK PANEL —



PARTS No.	MODEL	PRODUCT COUNTRY
4-214-451-0☐	GRX80: E2, AR	MALAYSIA
4-214-451-1☐	GRX80: EA3	MALAYSIA
4-214-451-2☐	GRX80: SP	MALAYSIA
4-214-451-3☐	GRX80: MX	INDONESIA
4-214-451-4☐	GRX80: MX	MALAYSIA
4-214-451-5☐	GRX80: AUS	MALAYSIA
4-214-451-6☐	GRX80: TW	MALAYSIA
4-214-451-7☐	GRX80: E2	INDONESIA
4-214-451-8☐	GRX80: EA4, TH	THAILAND
4-214-451-9☐	GRX80: E3	MALAYSIA
4-217-515-2☐	GRX80: E3	INDONESIA
4-217-515-3☐	GRX80: EA3	INDONESIA
4-215-165-0☐	GRX8: AEP, G, CIS, UK	INDONESIA
4-215-165-2☐	GRX8S: AEP	INDONESIA
4-215-165-3☐	GRX8: AEP	MALAYSIA

- Abbreviation
  G : German model
  MX : Mexican model
  SP : Singapore model
  TW : Taiwan model
  AUS : Australian model
  TH : Thai model
  EA3 : Saudi arabia model
  EA4 : Israel model
  E2 : Without SW tuner E model
  E3 : With SW tuner E model

NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT

The laser diode in the optical pick-up block may suffer electrostatic break-down because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body.
During repair, pay attention to electrostatic break-down and also use the procedure in the printed matter which is included in the repair parts.
The flexible board is easily damaged and should be handled with care.

NOTES ON LASER DIODE EMISSION CHECK

The laser beam on this model is concentrated so as to be focused on the disc reflective surface by the objective lens in the optical pick-up block. Therefore, when checking the laser diode emission, observe from more than 30 cm away from the objective lens.

LASER DIODE AND FOCUS SEARCH OPERATION CHECK

Carry out the “S curve check” in “CD section adjustment” and check that the S curve waveform is output four times.

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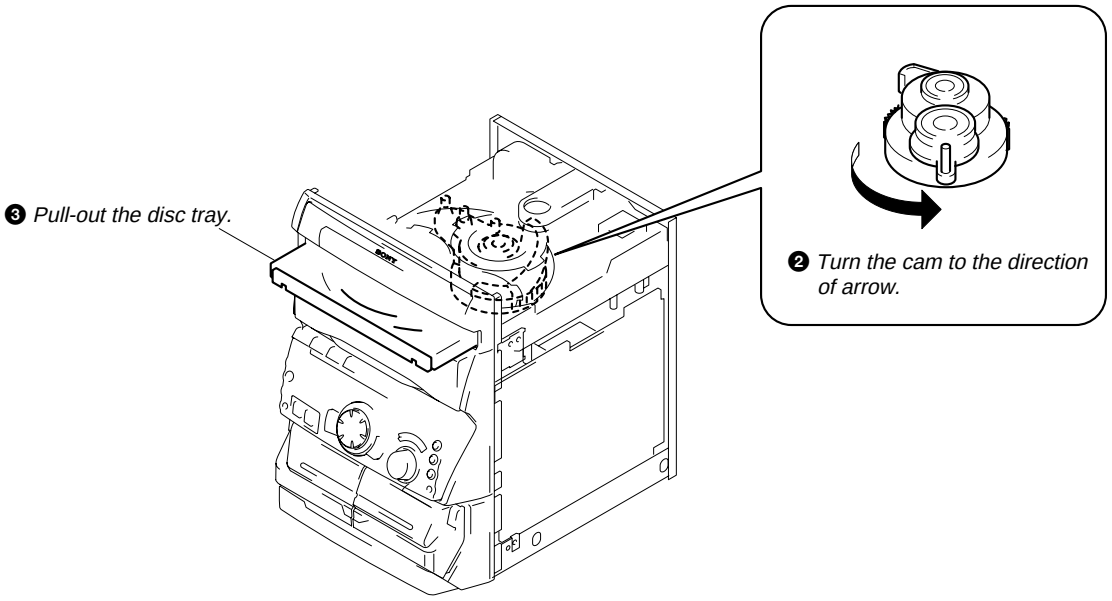
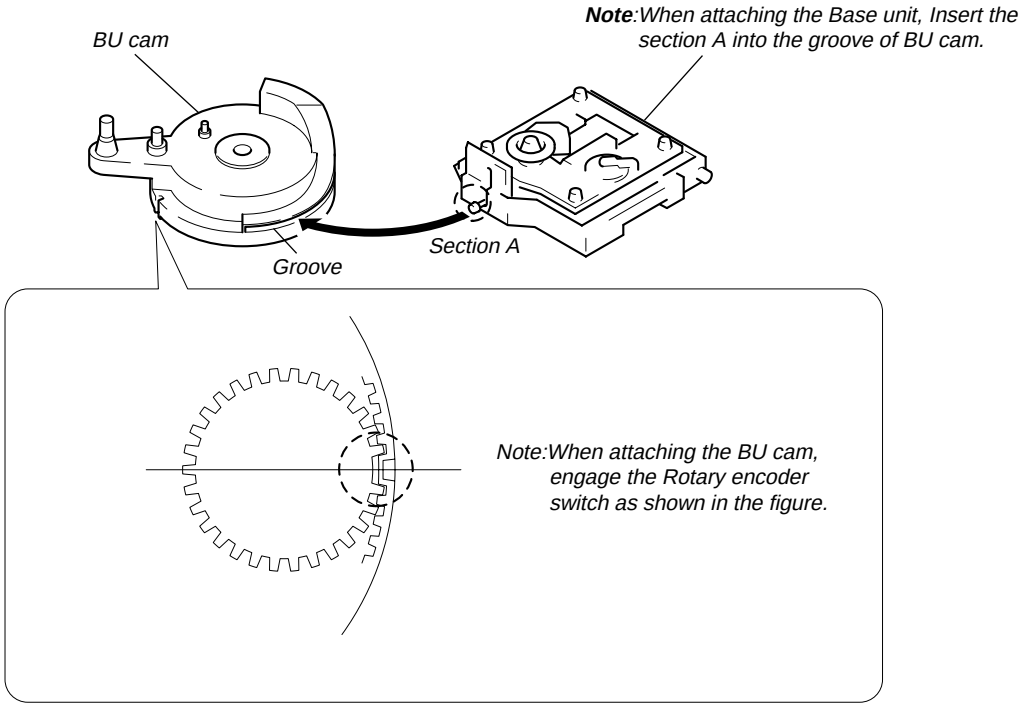
SECTION 1
SERVICING NOTE

HOW TO OPEN THE DISC TRAY WHEN POWER SWITCH TURNS OFF

❶ *Remove the Case.*



Note for Installation (ROTARY ENCODER)

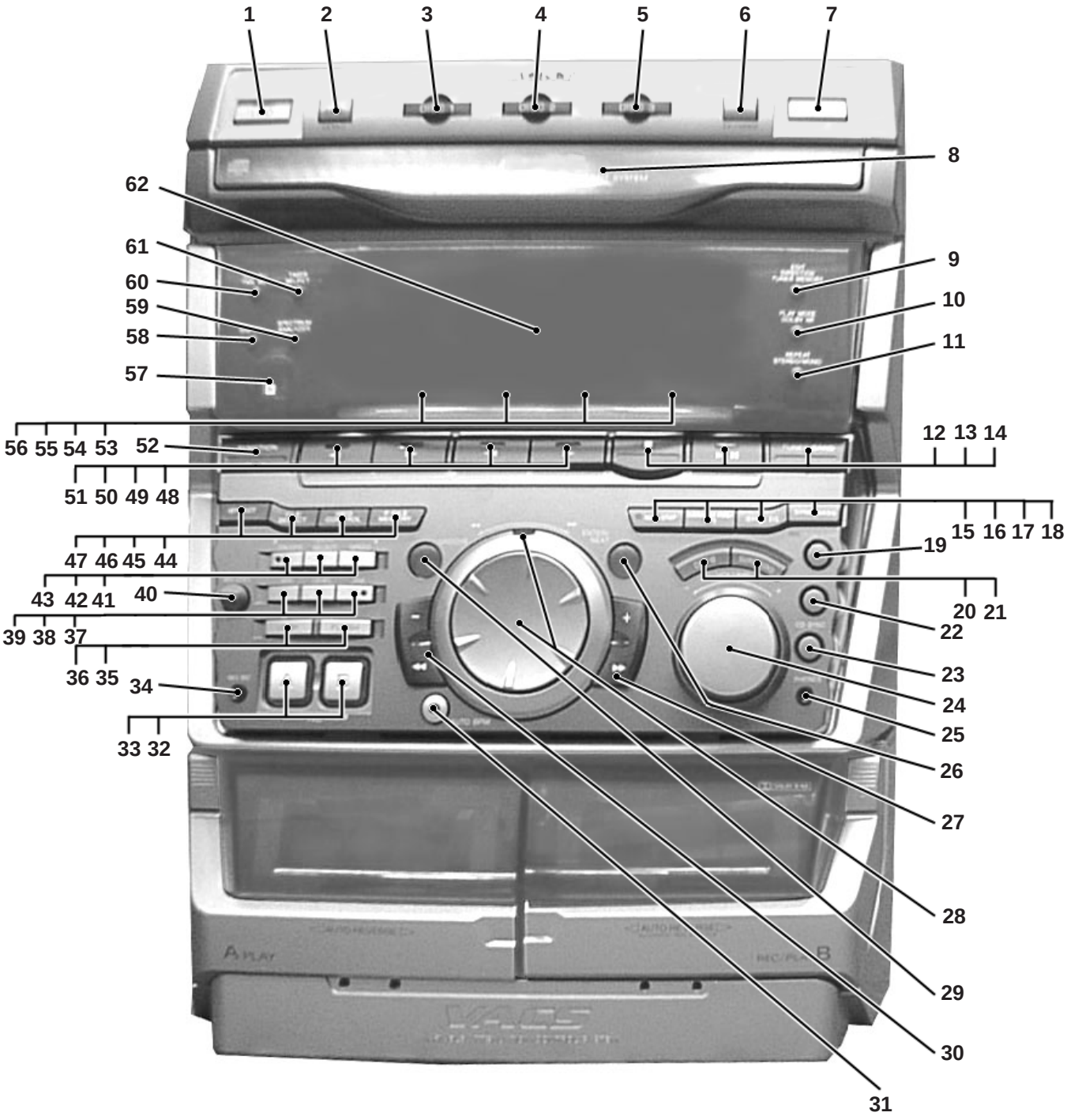

BU cam
Note:When attaching the Base unit, Insert the section A into the groove of BU cam.
Section A
Groove
Note:When attaching the BU cam, engage the Rotary encoder switch as shown in the figure.

CD-TEXT

This unit is provided with a simple CD-TEXT display function.
The CD-TEXT contents of 20 tracks are displayed on the fluorescent display tube.
Since the function is simple, some special characters may not be displayed, or may be displayed as other characters.

SECTION 2
GENERAL

Front Panel



LOCATION OF PARTS AND CONTROLS

1 I/⏻ (Power) button and indicator
2 DEMO (STANDBY) POWER SAVE button (RXD8/RXD8S)
DEMO button (STANDBY) (GRX80)
3 DISC 1 button and indicator
4 DISC 2 button and indicator
5 DISC 3 button and indicator
6 DISC SKIP/EX–CHANGE button
7 ⏏ (Eject) button
8 Disc tray
9 EDIT DIRECTION/TUNER MEMORY button
10 PLAY MODE/DOLBY NR/PTY button (RXD8/RXD8S)
PLAY MODE/DOLBY NR button (GRX80)
11 REPEAT/STEREO/MONO button
12 ■ button
13 ►II (CD) button and indicator
14 TUNER/BAND button
15 NON-STOP button and indicator
16 KARAOKE PON/MPX button
17 SYNC EQ button
18 SYNC BASS button
19 REC PAUSE/START button and indicator
20 DBFB button
21 SURROUND button
22 HI DUB button
23 CD SYNC button
24 VOLUME knob
25 PHONES jack
26 ENTER/NEXT button and indicator
27 ►► + button and indicator
28 JOG/◄◄ ▬ ►► dial and indicator
29 GROOVE button and indicator
30 –◄◄ button and indicator
31 AUTO BPM button and indicator
32 PAD B button and indicator
33 PAD A button and indicator
34 MIX MIC jack
35 FLASH button
36 LOOP button
37 JAM button and indicator
38 LEVEL button
39 MIX button
40 MIC LEVEL knob
41 BEAT SPEED button
42 BEAT SELECT button
43 BEAT ON/OFF button and indicator
44 P FILE MEMORY button
45 GEQ CONTROL button
46 FILE SELECT
47 EFECT button
48 ► (B deck) button and indicator
49 ◄ (B deck) button and indicator
50 ► (A deck) button and indicator
51 ◄ (A deck) button and indicator
52 FUNCTION button
53 SYNC BASS H indicator
54 SYNC BASS L indicator
55 SYNC EQ indicator
56 EFECT indicator
57 Remote sensor
58 DISPLAY button
59 SPECTRUM ANALYZER button
60 CLOCK/TIME SET button
61 TIMER SELECT button and indicator
62 Display Window

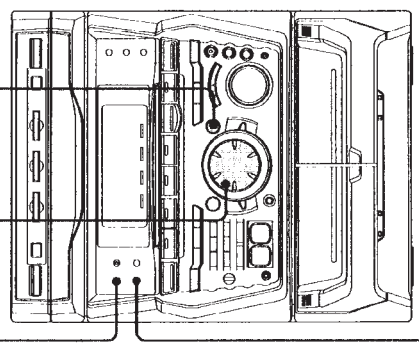
This section is extracted from instruction manual.

Step 2: Setting the time

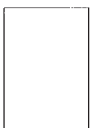
You must set the time before using the timer functions.

The clock is on a 24-hour system for the European and Russian models, and a 12-hour system for other models.

The 24-hour system model is used for illustration purposes.

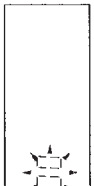


1 Press CLOCK/TIMER SET.
The hour indication flashes.



2 Turn the jog dial to set the hour.

3 Press ENTER/NEXT.
The minute indication flashes.



4 Turn the jog dial to set the minute.

5 Press ENTER/NEXT.
The clock starts working.

Tip
If you've made a mistake, start over from step 1.

To change the time

The previous explanation shows you how to set the time while the power is off. To change the time while the power is on, do the following:

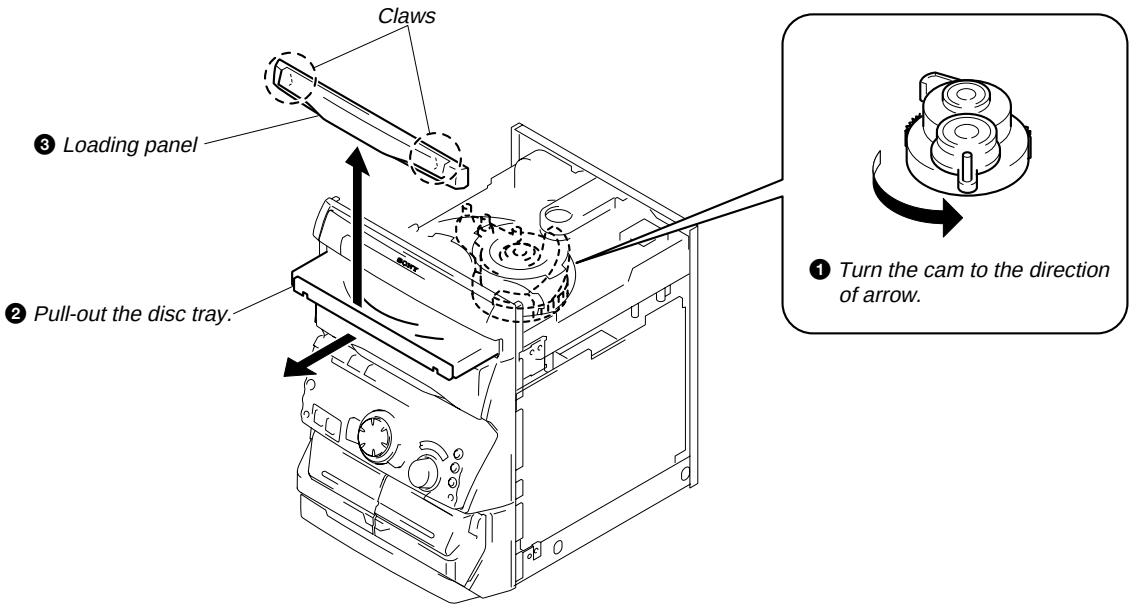
1 Press CLOCK/TIMER SET.
2 Turn the jog dial to select SET CLOCK.
3 Press ENTER/NEXT.
4 Perform steps 2 through 5 above.

Note
The clock settings are canceled when you disconnect the power cord or if a power failure occurs.

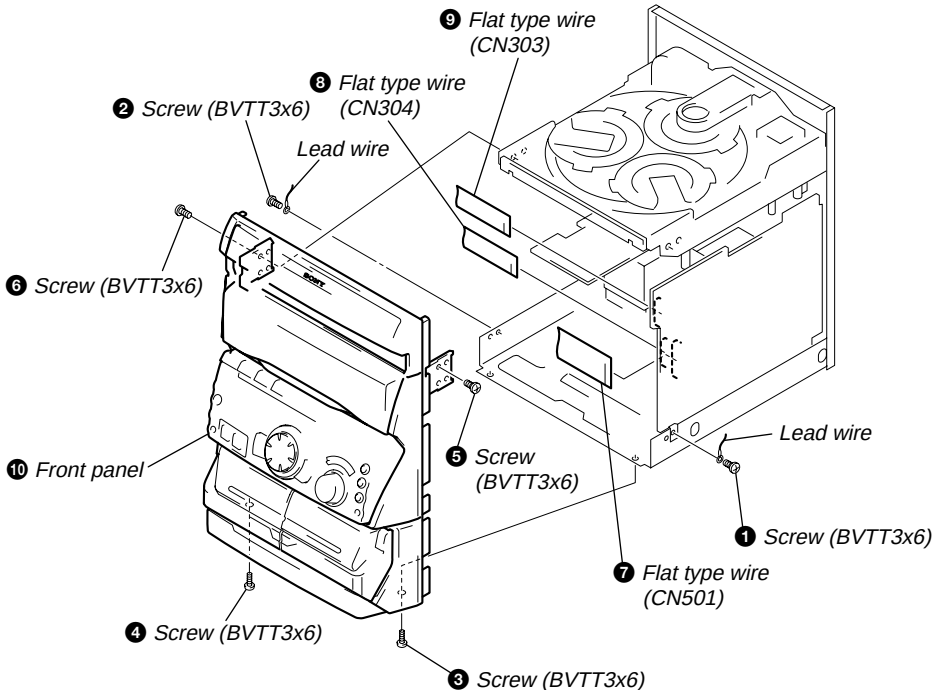
SECTION 3
DISASSEMBLY

Note: Follow the disassembly procedure in the numerical order given.

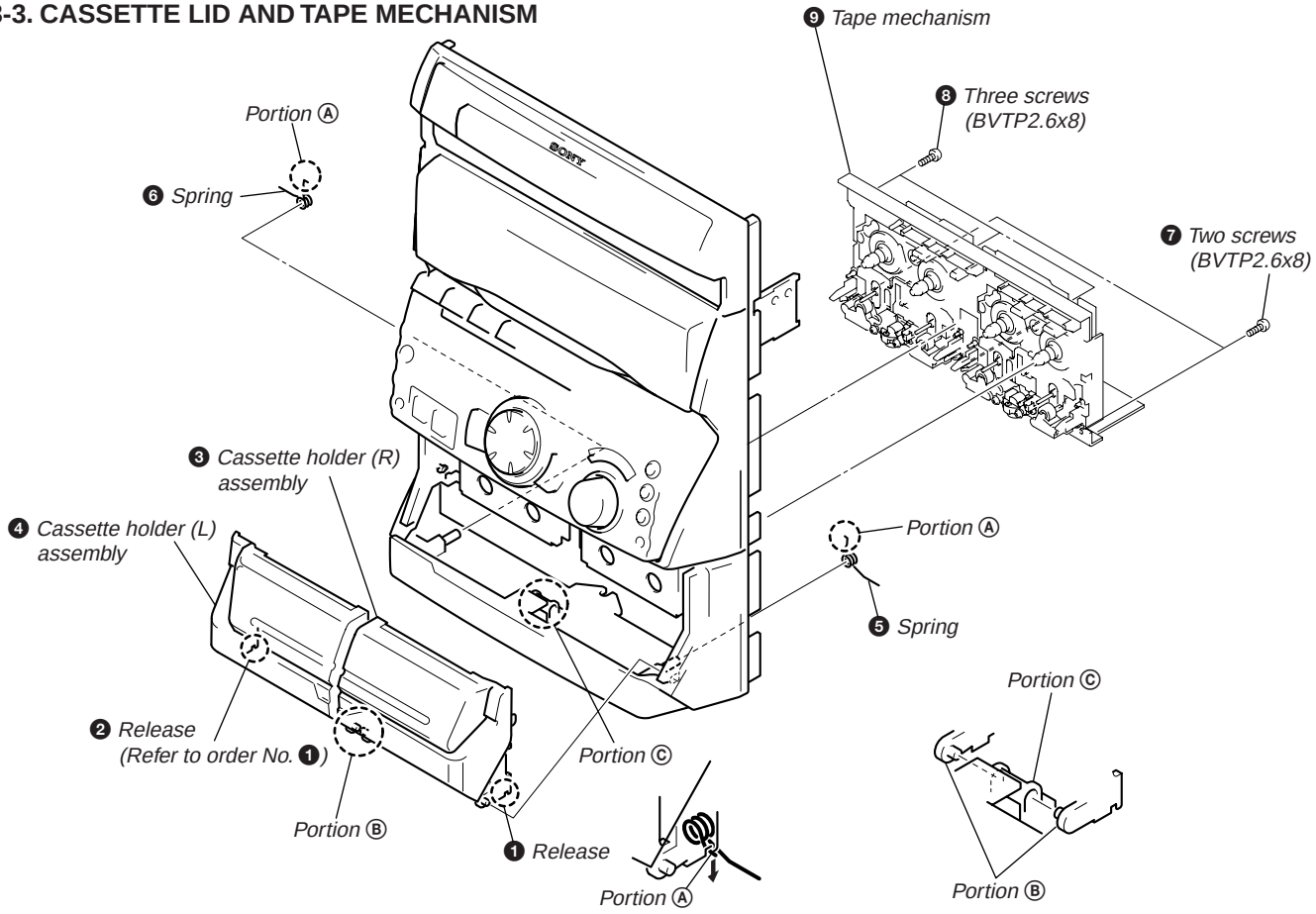
3-1. LOADING PANEL



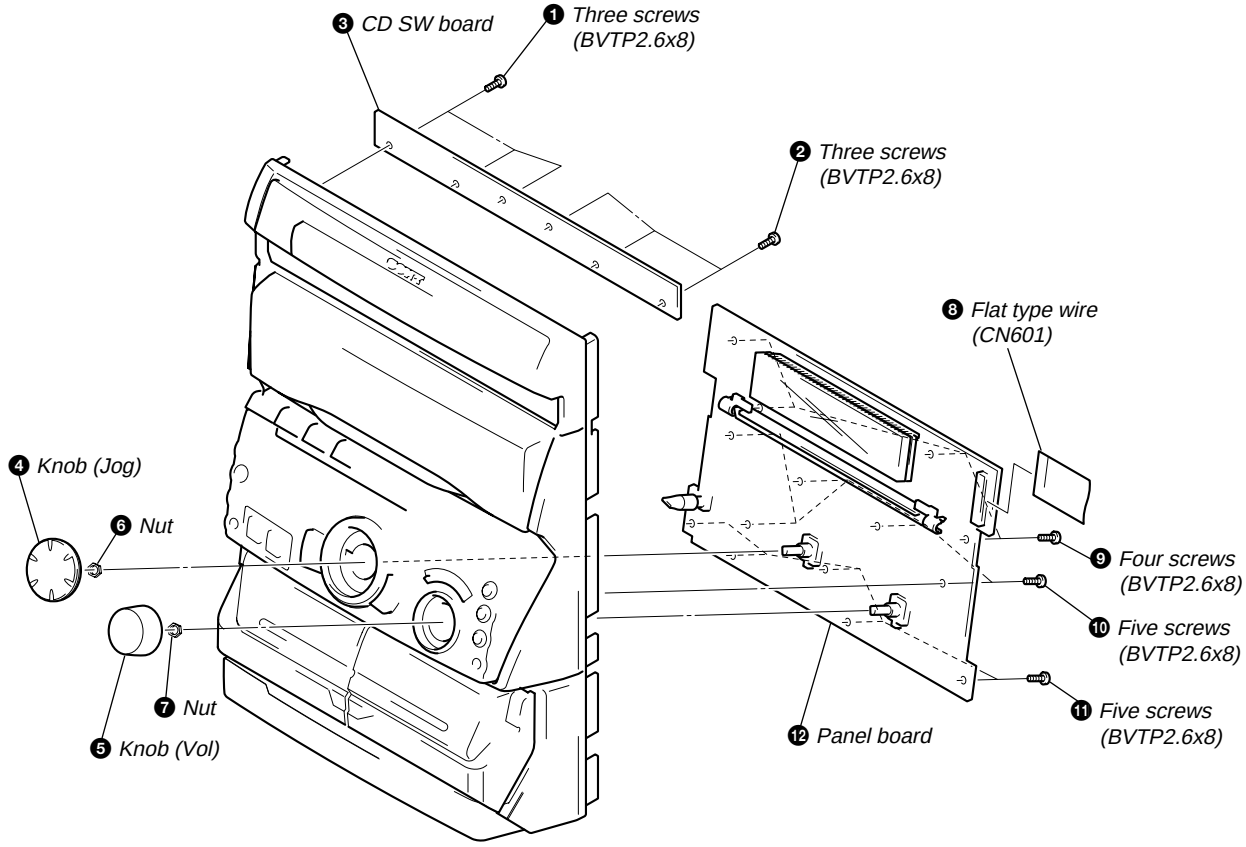
3-2. FRONT PANEL



3-3. CASSETTE LID AND TAPE MECHANISM

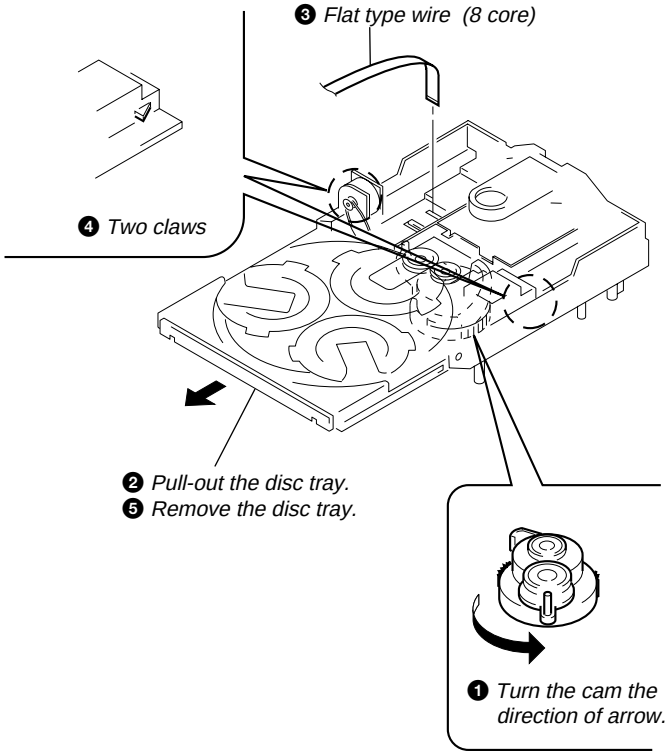


3-4. CD SW BOARD AND PANEL BOARD

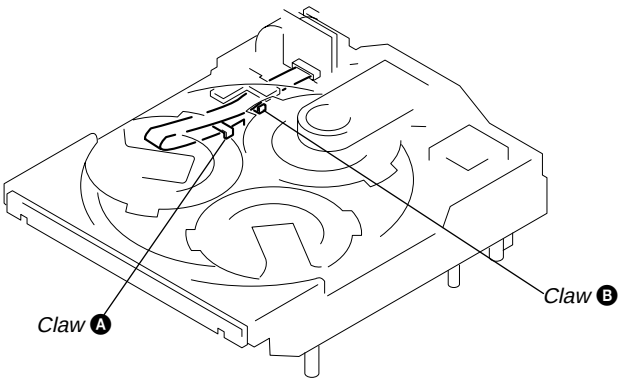


3-5. DISC TRAY

(Perform after removing the front panel.)



Note:*When installing the Disc tray, pull around the flat type wire to pass through the claw Ⓐ and claw Ⓑ, as shown in the figure.*



SECTION 4
SERVICE MODE

MC Cold Reset

• The cold reset clears all data including preset data stored in the RAM to initial conditions. Execute this mode when returning the set to the customer.

Procedure:

1. Press three buttons [■] , [ENTER/NEXT] , and [I/⏻] simultaneously.
2. "COLD RESET" is displayed on the fluorescent display tube and reset is executed.

CD Delivery Mode

• This mode moves the pick-up to the position durable to vibration. Use this mode when returning the set to the customer after repair.

Procedure:

1. Press [I/⏻] button to turn the set ON.
2. Press [LOOP] button and [I/⏻] button simultaneously.
3. A message "LOCK" is displayed on the fluorescent indicator tube, and the CD delivery mode is set.

MC Hot Reset

• This mode resets the set with the preset data kept stored in the memory. The hot reset mode functions same as if the power cord is plugged in and out.

Procedure:

1. Press three buttons [■] , [ENTER/NEXT] , and [DISC 1] simultaneously.
2. The fluorescent indicator tube becomes blank instantaneously, and the set is reset.

Sled Servo Mode

• This mode can run the CD sled motor freely. Use this mode, for instance, when cleaning the pick-up.

Procedure:

1. Press [I/⏻] button to turn the set ON.
2. Press three buttons [■] , [ENTER/NEXT] , and [⏏] simultaneously.
3. The Sled Servo mode is selected, if "CD" is blanking on the fluorescent indicator tube.
4. With the CD in stop status, When the [◀◀ AMS ▶▶] knob is rotated in the clockwise direction, the pick-up moves outside. When rotated counterclockwise, it moves inside.
5. To exit from this mode, perform as follows:
   1) Move the pick-up to the most inside track.
   2) Execute MC cold reset. (Press the three buttons [■] , [ENTER/NEXT] , and [I/⏻] button simultaneously.)

Note:

• Always move the pick-up to most inside track when exiting from this mode. Otherwise, a disc will not be unloaded.
• Do not run the sled motor excessively, otherwise the gear can be chipped.

Change-over of AM Tuner Step between 9kHz and 10kHz

• A step of AM channels can be changed over between 9kHz and 10kHz.

Procedure:

1. Press [I/⏻] button to turn the set ON.
2. Select the function "TUNER", and press [TUNER/BAND] button to select the BAND "AM".
3. Press [I/⏻] button to turn the set OFF.
4. Press [ENTER/NEXT] and [I/⏻] buttons simultaneously, and the display of fluorescent indicator tube changes to "AM 9k STEP" or "AM 10k STEP", and thus the channel step is changed over.

LED and Fluorescent Indicator Tube All Lit, Key Check Mode

Procedure:

1. Press three buttons [■] , [ENTER/NEXT] , and [DISC 2] simultaneously.
2. LEDs and fluorescent indicator tube are all turned on.
   Press [DISC 2] button, and the key check mode is activated.
3. In the key check mode, the fluorescent indicator tube displays "K 0 V0 J0". Each time a button is pressed, "K"value increases. However, once a button is pressed, it is no longer taken into account.
   "J" Value increases like 1, 2, 3 ... if rotating [◀◀ AMS ▶▶] knob in "+" direction, or it decreases like 0, 9, 8 ... if rotating in "-" direction.
   "V" Value increases like 1, 2, 3 ... if rotating [VOLUME] knob in "+" direction, or it decreases like 0, 9, 8 ... if rotating in "-" direction.
4. To exit from this mode, press three buttons in the same manner as step 1, or disconnect the power cord.

AMS Test Mode

• This mode is used for checking the AMS operations of the tape deck.

JIG
7-819-039-12 Alignment tape, AMS-110A

Procedure:

1. Press the I/⏻ button to turn the unit ON.
2. Set the tape (AMS-110A).
3. Press the three buttons ■ , ENTER/NEXT , and DISC 3 button simultaneously.
4. "TEST MODE" is displayed on the fluorescent display tube.
5. Press the FUNCTION button and switch the function to the deck with the tape (AMS-110A).
6. Press the CD SYNC button. "AMS CHECK" is displayed on the fluorescent display tube and the tape is rewound.
7. AMS starts in the normal direction. If the AMS count is 2 at shut down, proceed to step 8.
   "NG" is displayed at other times, and the deck stops.
8. AMS starts in the opposite direction. If the AMS count is 2 at shut down again, "OK" is displayed.
   "NG" is displayed at other times.

Note: The ■ button of CD section will become effective and the aging of CD section will stop sometime, if the buttons described in step 3 are not pressed simultaneously. In that case, press ▶II button and operate the CD section.

Aging Mode

During the aging mode, both the CD player and tape deck are executed together.

• If an error occurs:

Aging stops, and the error state is displayed on the fluorescent display tube.

• If no error occurs:

Aging is repeated.

Procedure:

1. Press the I/⏻ button to turn the unit ON.
2. Load 10 minute tapes with unbent rec-proof tabs in decks A and B.
3. Set CD on the DISC 1 table.
4. Set the CD mode REPEAT to OFF and PLAY MODE to ALL DISCS.
   (Press the PLAY MODE/DOLBY NR and REPEAT/STEREO/MONO buttons to set these modes.)
5. Press the FUNCTION button to switch the function to "CD".
6. Press the three buttons ■ , ENTER/NEXT , and DISC SKIP/EX-CHANGE button simultaneously.
7. Aging starts.
8. To end aging, press the I/⏻ button to turn the unit OFF.

Aging Sequence:

Aging is performed in the following sequence.

• Tape Deck

1. The tape in deck A is rewound. "TAPE A AG-1" is displayed.
2. The FWD side of deck A is played for two minutes.
   "TAPE A AG-2" is displayed.
3. The tape in deck A is fast forwarded. "TAPE A AG-3" is displayed. Fast forward is carried out for 20 seconds or to the tape end.
4. The RVS side of deck A is played for two minutes.
   "TAPE A AG-4" is displayed.
5. The tape in deck A is rewound. "TAPE A AG-5" is displayed.
6. The FWD side of deck B is played for two minutes.
   "TAPE B AG-2" is displayed.
7. The tape in deck B is fast forwarded. "TAPE B AG-3" is displayed. Fast forward is carried out for 20 seconds or to the tape end.
8. The RVS side of deck B is played for two minutes.
   "TAPE B AG-4" is displayed.
9. The tape in deck A is rewound. "TAPE A AG-5" is displayed.
10. Repeated from step 2.

• CD

1. The tray rotates.
2. DISC 1 is chucked.
3. The TOC is read.
4. The first track is played for 2 seconds.
5. The last track is played for 2 seconds.
6. Repeated from step 1.

• Display when ended abnormally
When the tape deck is abnormal:

The state when ended abnormally is displayed.
The contents of display are the same as that during aging.

When the CD player is abnormal:

A message indicating that errors such as “CD MEC ERR” have occurred.
Check the error contents in the following error history display mode.

Error History Display Mode

Mode which enables the history of error occurring in the CD player to be checked.
Execute this mode after ending the aging mode.

Procedure:
1. Press the I/⏻ button to turn the unit ON.
2. Press the three buttons ■ , ENTER/NEXT , and CD SYNC simultaneously.
3. A message such as “EMC@@EDC**” is displayed.
   @@ : Number of mechanical errors (Up to three past errors)
   ** : Number of errors (NO DISC ERROR) which occurs after chucking (Up to three past errors)
4. When checking the history of mechanical errors, press the PLAY MODE/DOLBY NR buttons. When checking errors after chucking, press the REPEAT/STERO/MONO buttons to switch the display.
5. Press the I/⏻ button to end and turn the unit OFF.
6. To erase the error history, perform COLD reset.
   (Press the three buttons ■ , ENTER/NEXT , and DISC 1 simultaneously.

• Viewing the mechanical error history display
(Switch the history by pressing the PLAY MODE/DOLBY NR button.)

Display
E@@M**#*$*

@@ : Error number. 00 is the newest.

* : Invalid

\# : Loading
- D : Stop that is due to a problem of other than mechanism during CLOSE mode.
- E : Stop that is due to a problem of other than mechanism during OPEN mode.
- C : Stop that is due to a problem of other than mechanism during CHUCK UP mode.
- F : Stop that is due to a problem of other than mechanism during EX OPEN mode.

$: Emerging
- 1 : Stop during CLOSE mode.
- 2 : Stop during CHUCK DOWN mode.
- 3 : Time limit of EX OPEN mode.
- 5 : Time limit of EX CLOSE mode.

• Viewing the NO DISC ERROR history display
(Switch the history by pressing the REPEAT/STERO/MONO buttons.)

Display
E@@D##$$%*

@@ : Error number. 00 is the newest

: Error contents
- 01 : Focus error
- 02 : GFS error
- 03 : Setup error

$$: Retries
- 00 : NO DISC is determined without attempting chucking retry
- 02 : NO DISC is determined after chucking retry.

% : State when determined as NO DISC
- 1 : When stopped
- 2 : At setup
- 3 : At TOC READ
- 4 : When accessing
- 5 : When playing
- 6 : When pausing
- 7 : When manual searching (during play)
- 8 : When manual searching (during pausing)

* : Invalid

SECTION 5
MECHANICAL ADJUSTMENTS

Precaution

1. Clean the following parts with a denatured alcohol-moistened swab:
   - record/playback heads
   - erase head
   - capstan
   - pinch rollers
   - rubber belts
   - idlers
2. Demagnetize the record/playback head with a head demagnetizer.
3. Do not use a magnetized screwdriver for the adjustments.
4. After the adjustments, apply suitable locking compound to the parts adjusted.
5. The adjustments should be performed with the rated power supply voltage unless otherwise noted.

Torque Measurement

Mode	Torque meter	Meter reading
FWD	CQ-102C	31 to 71 g • cm (0.43 – 0.98 oz • inch)
FWD back tension	CQ-102C	2 to 6 g • cm (0.02 – 0.08 oz • inch)
REV	CQ-102RC	31 to 71 g • cm (0.43 – 0.98 oz • inch)
REV back tension	CQ-102RC	2 to 6 g • cm (0.02 – 0.08 oz • inch)
FF/REW	CQ-201B	71 to 143 g • cm (0.98 – 1.99 oz • inch)
FWD tension	CQ-403A	100 g or more (3.53 oz or more)
REV tension	CQ-403R	100 g or more (3.53 oz or more)

SECTION 6
ELECTRICAL ADJUSTMENTS

DECK SECTION **0 dB=0.775V**

1. Demagnetize the record/playback head with a head damagnetizer.
2. Do not use a magnetized screwdriver for the adjustments.
3. After the adjustments, apply suitable locking compound to the parts adjusted.
4. The adjustments should be performed with the rated power supply voltage unless otherwise noted.
5. The adjustments should be performed in the order given in this service manual. (As a general rule, playback circuit adjustment should be completed before performing recording circuit adjustment.)
6. The adjustments should be performed for both L-CH and R-CH.
7. Switches and controls should be set as follows unless otherwise specified.

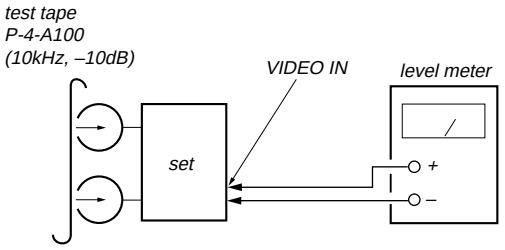
Tape	Signal	Used for
P-4-A100	10 kHz, –10 dB	Azimuth Adjustment
WS-48B	3 kHz, 0 dB	Tape Speed Adjustment
P-4-L300	315 Hz, 0 dB	Level Adjustment

Record/Playback Head Azimuth Adjustment (Deck A, Deck B)

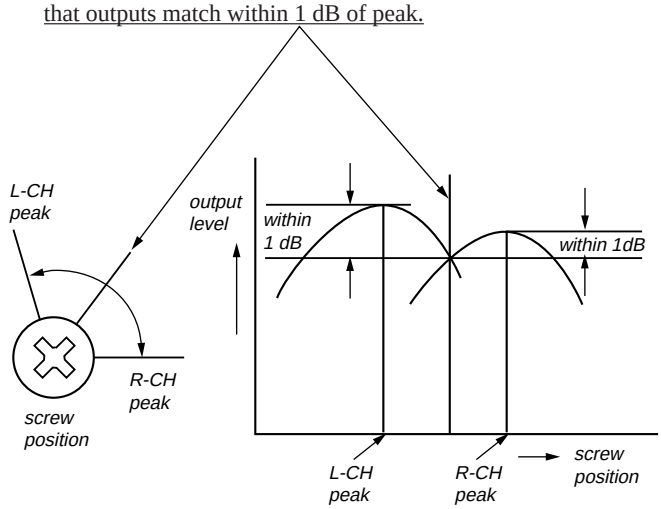
Note: Perform this adjustments for both decks.

Procedure:

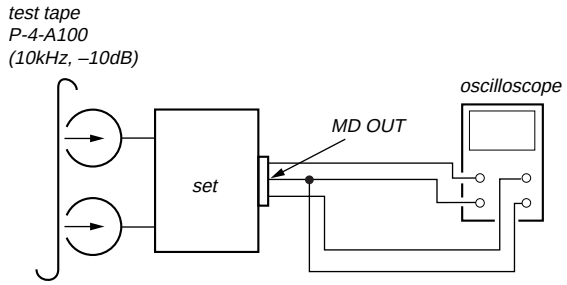
1. Mode : Playback

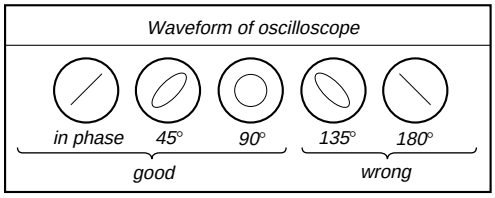


2. Turn the adjustment screw and check output peaks. If the peaks do not match for L-CH and R-CH, turn the adjustment screw so that outputs match within 1 dB of peak.



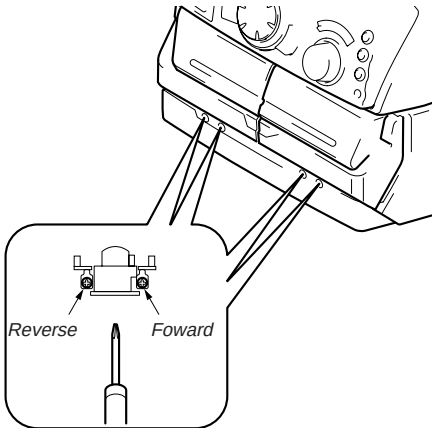
3. Mode: Playback





4. After the adjustments, apply suitable locking compound to the parts adjusted.

Adjustment Location: Playback Head (Deck A)
Record/Playback/Erase Head (Deck B)



Tape Speed Adjustment (Deck A)

Note: Set the test mode using the following method and begin tape speed adjustment.
In the test mode, the speed will switch to double speed or normal speed each time the HI DUB button is pressed.

Procedure:
With the power turned ON, press the ■ button, ENTER/NEXT button, and DISC 3 button simultaneously.
(The "CD TYPE INDICATOR" on the fluorescent display tube will blink while in the test mode.)
To exit the test mode, press the I/⏻ button.

1. Insert the WS-48B into deck B.
2. Press the ► button of deck B.
3. Press the HI DUB button and play the tape at double speed.
4. Adjust RV1001 of the LEAF SW board so that the reading of the frequency counter becomes 6000 ± 180 Hz.
5. Press the HI DUB button and play the tape at normal speed.
6. Adjust RV1002 of the LEAF SW board so that the reading of the frequency counter becomes 3000 ± 90 Hz.

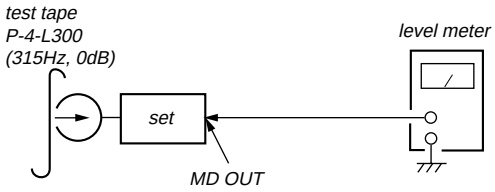
Adjustment Location: LEAF SW board

Sample Value of Wow and flutter

W.RMS (JIS) less than 0.3%
(test tape: WS-48B)

Playback Level Adjustment (Deck A, Deck B)

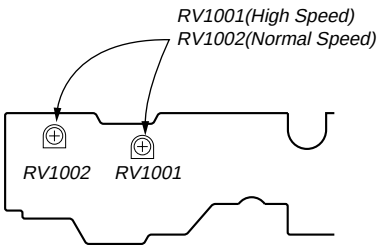
Procedure:
Mode: Playback



Deck A is RV311 (L-CH) and RV411 (R-CH), deck B is RV301 (L-CH) and RV401 (R-CH)
so that adjustment within the following adjustment level.

Adjustment level:
CN301 playback level: 301.5 to 338.3 mV (–8.2 to –7.2 dB)
level difference between the channels: within ± 0.5 dB
Adjustment Location: AUDIO board

Adjustment Location [LEAF SW BOARD]

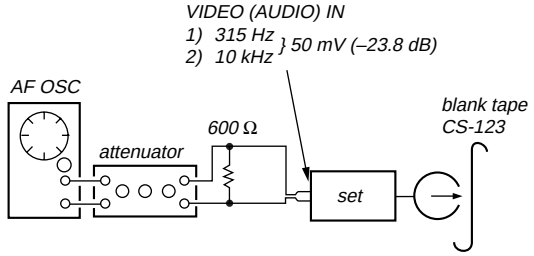


Record Bias Adjustment (Deck B)

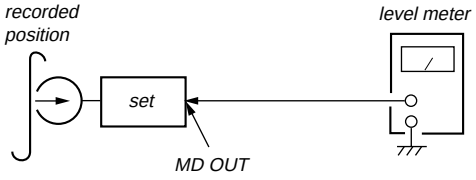
Procedure:

INTRODUCTION
When set to the test mode performed in **Tape Speed Adjustment**, when the tape is rewound after recording, the "REC memory mode" which rewinds only the recorded portion and playback is set.
This "REC memory mode" is convenient for performing this adjustment. During recording, the input signal FUNCTION will automatically switch to VIDEO.
(After recording, press the [– ◀◀] button without stopping will return to the position where recording was started.)

1. Press [FUNCTION] button to select VIDEO. (This step is not necessary if the above test mode has already been set.)
2. Insert a tape into deck B, press the [● REC] button, and then press the [►] button to start recording.
3. Mode: Record



4. Mode: Playback



5. Confirm playback the signal recorded in step 2 become adjustment level as follows.
   If these levels do not adjustment level, adjust the RV341 (L-CH) and RV441 (R-CH) on the AUDIO board to repeat steps 3 and 4.

Adjustment level: The playback output of 10 kHz level difference against 315 Hz reference should be ± 1.0 dB.

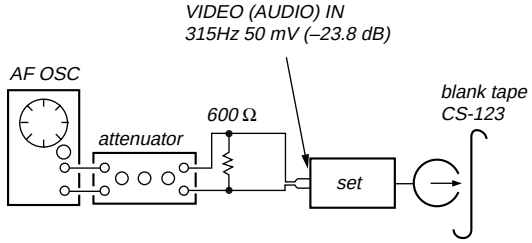
Adjustment Location: AUDIO board

Record Level Adjustment (Deck B)

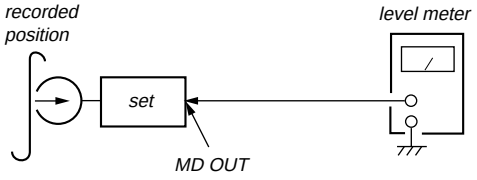
Procedure:

INTRODUCTION
When set to the test mode performed in **Tape Speed Adjustment**, when the tape is rewound after recording, the "REC memory mode" which rewinds only the recorded portion and playback is set.
This "REC memory mode" is convenient for performing this adjustment. During recording, the input signal FUNCTION will automatically switch to VIDEO.
(After recording, press the [– ◀◀] button without stopping will return to the position where recording was started.)

1. Press [FUNCTION] button to select VIDEO 1. (This step is not necessary if the above test mode has already been set.)
2. Insert a tape into deck B, press the [● REC] button, and then press the [►] button to start recording.
3. Mode: Record



4. Mode: Playback

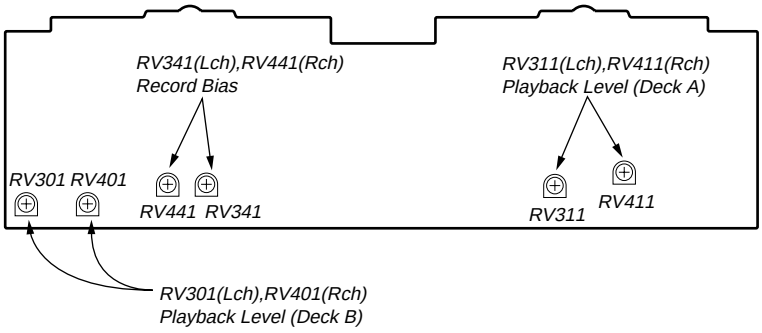


5. Confirm playback the signal recorded in step 2 become adjustment level as follows.
   If these levels do not adjustment level, adjust the RV301 (L-CH) and RV351 (R-CH) on the MAIN board to repeat steps 3 and 4.

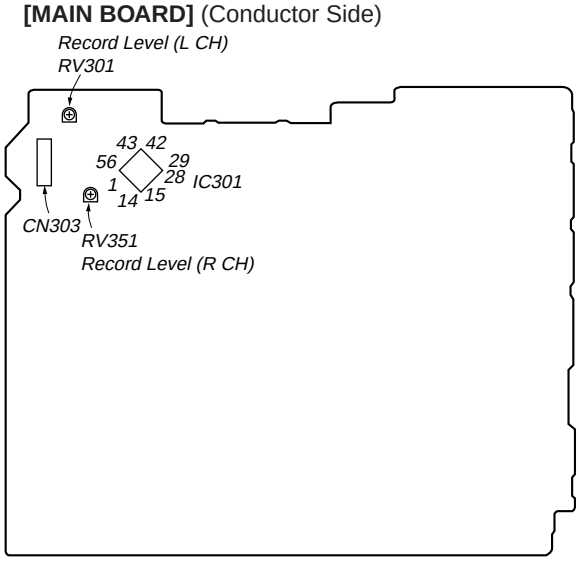
Adjustment level:
CN403 playback level: 47.2 to 53.0 mV (–24.3 to –23.3 dB)

Adjustment Location: MAIN board

Adjustment Location:
[AUDIO BOARD] (Conductor Side)



[MAIN BOARD] (Conductor Side)

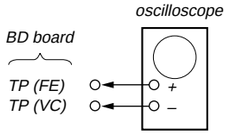


CD SECTION

Note:

1. CD Block is basically constructed to operate without adjustment. Therefore, check each item in order given.
2. Use YEDS-18 disc (3-702-101-01) unless otherwise indicated.
3. Use an oscilloscope with more than 10MΩ impedance.
4. Clean the object lens by an applicator with neutral detergent when the signal level is low than specified value with the following checks.

S Curve Check



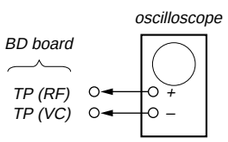
Procedure :

1. Connect the oscilloscope to test points TP (FE) and TP (VC).
2. Connect TP (FEI) and GND, and TP (AGCCON) and GND of the BD board with lead wires.
3. Press the I/⏻ button to turn the set ON.
4. With the disc (YEDS-18) loaded, press the ▶II button and perform focus search. (Focus search will be performed in the same way even while the disc table is pushed in and out.)
5. Check the symmetry and peak to peak level of the oscilloscope waveform (S curve) at this time.

6. After check, remove the lead wire connected in step 2.

Note: • Try to measure several times to make sure than the ratio of A : B or B : A is more than 10 : 7.
• Take sweep time as long as possible and light up the brightness to obtain best waveform.

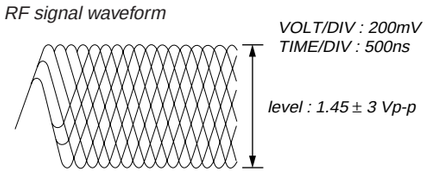
RF Level Check



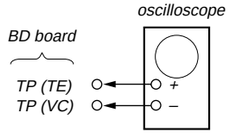
Procedure :

1. Connect oscilloscope to test point TP (RF) and TP (VC) on BD board.
2. Connect TP (AGCCON) and GND of the BD board with lead wires.
3. Press the I/⏻ button to turn the set ON.
4. Put disc (YEDS-18) in and playback 5track.
5. Confirm that oscilloscope waveform is clear and check RF signal level is correct or not.
6. After check, remove the lead wire connected in step 2.

Note: Clear RF signal waveform means that the shape "◊" can be clearly distinguished at the center of the waveform.



E-F Balance (1 Track Jump) check



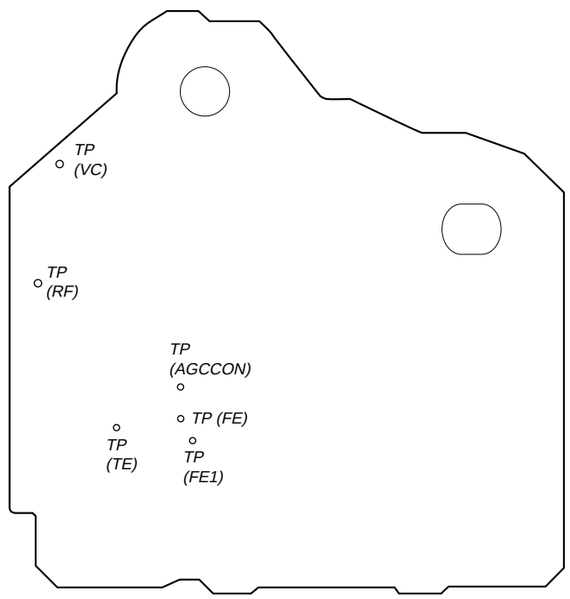
Procedure:

1. Connect oscilloscope to test point TP (TE) on BD board.
2. Press the I/⏻ button to turn the unit ON.
3. Put disc (YEDS-18) in to play the number five track.
4. Press the ▶II button.
5. Check the level B of the oscilloscope's waveform and the A (DC voltage) of the center of the Traverse waveform. Confirm the following:

   • A/B x 100 = less then ± 22 (%)
   • B = 1.3 ± 0.6 Vp-p

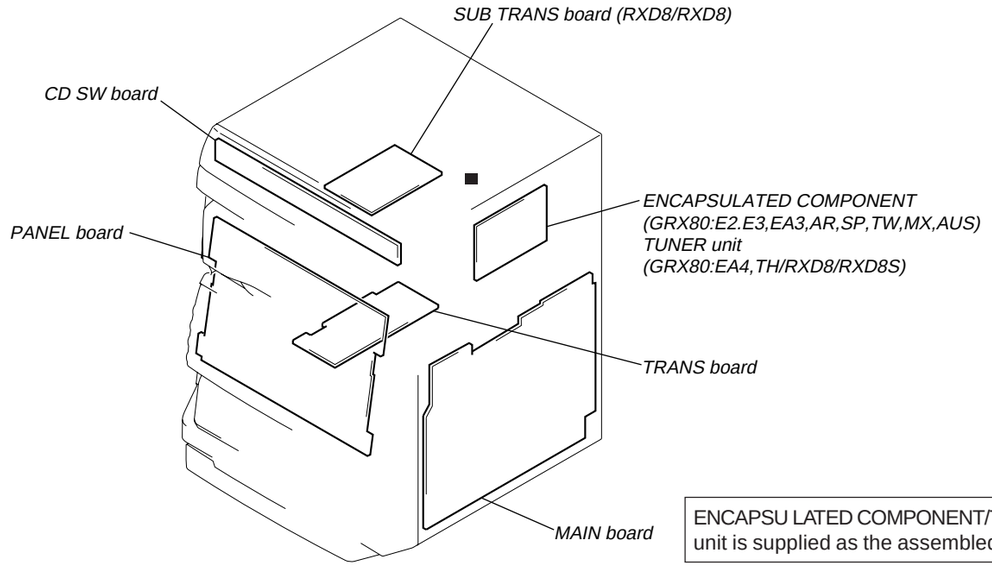
Adjustment Location :

[BD BOARD] — SIDE A —

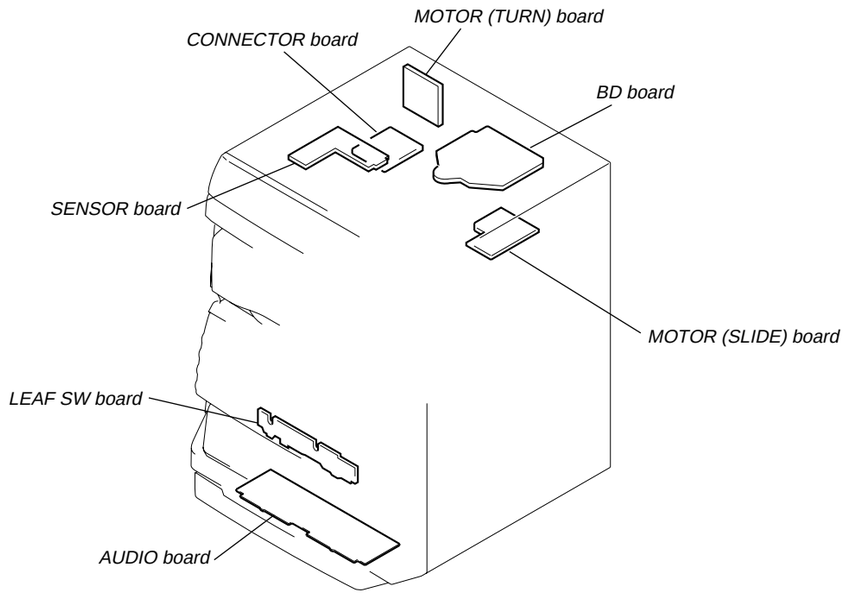


SECTION 7
DIAGRAMS

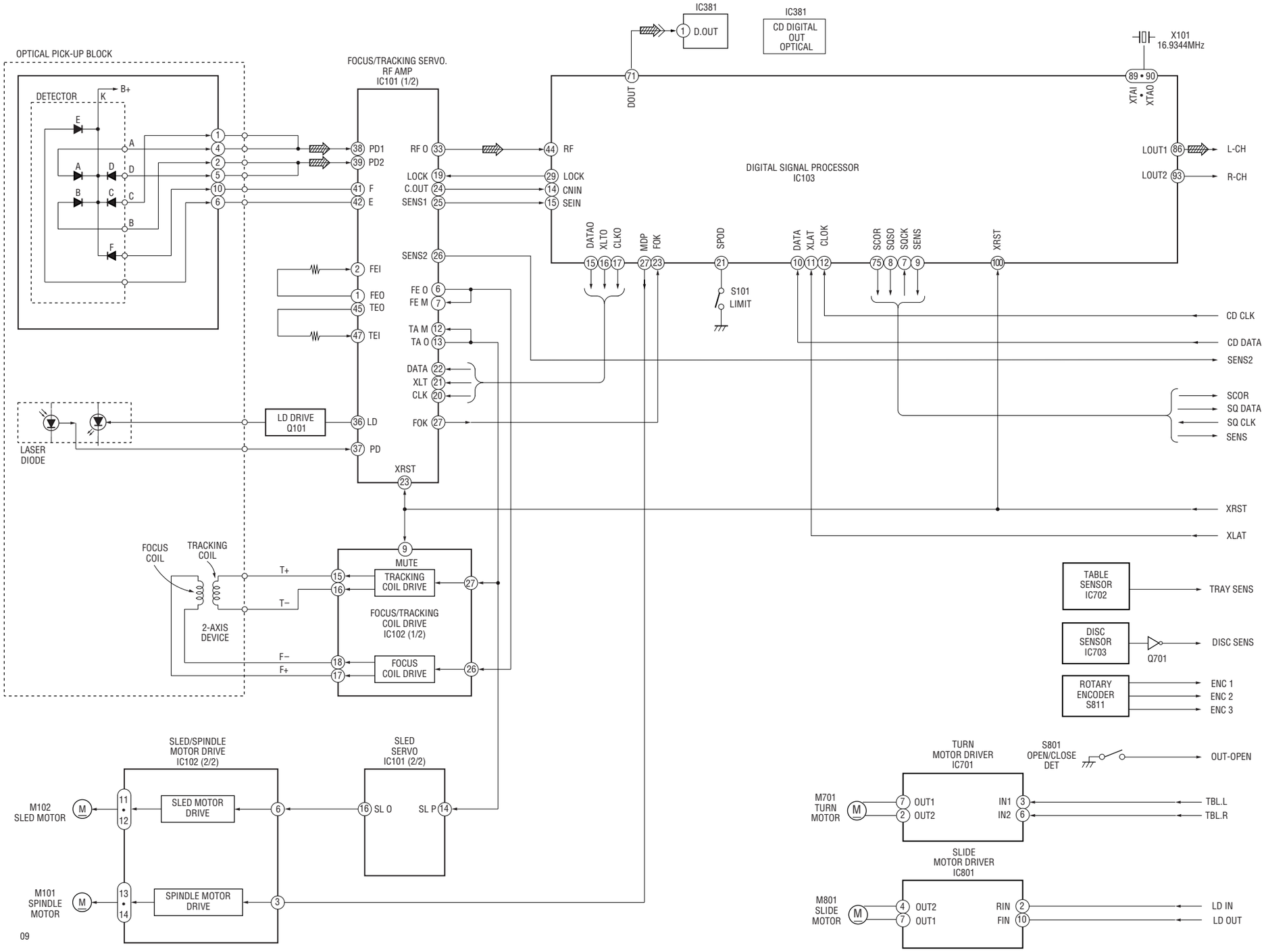
7-1. CIRCUIT BOARDS LOCATION



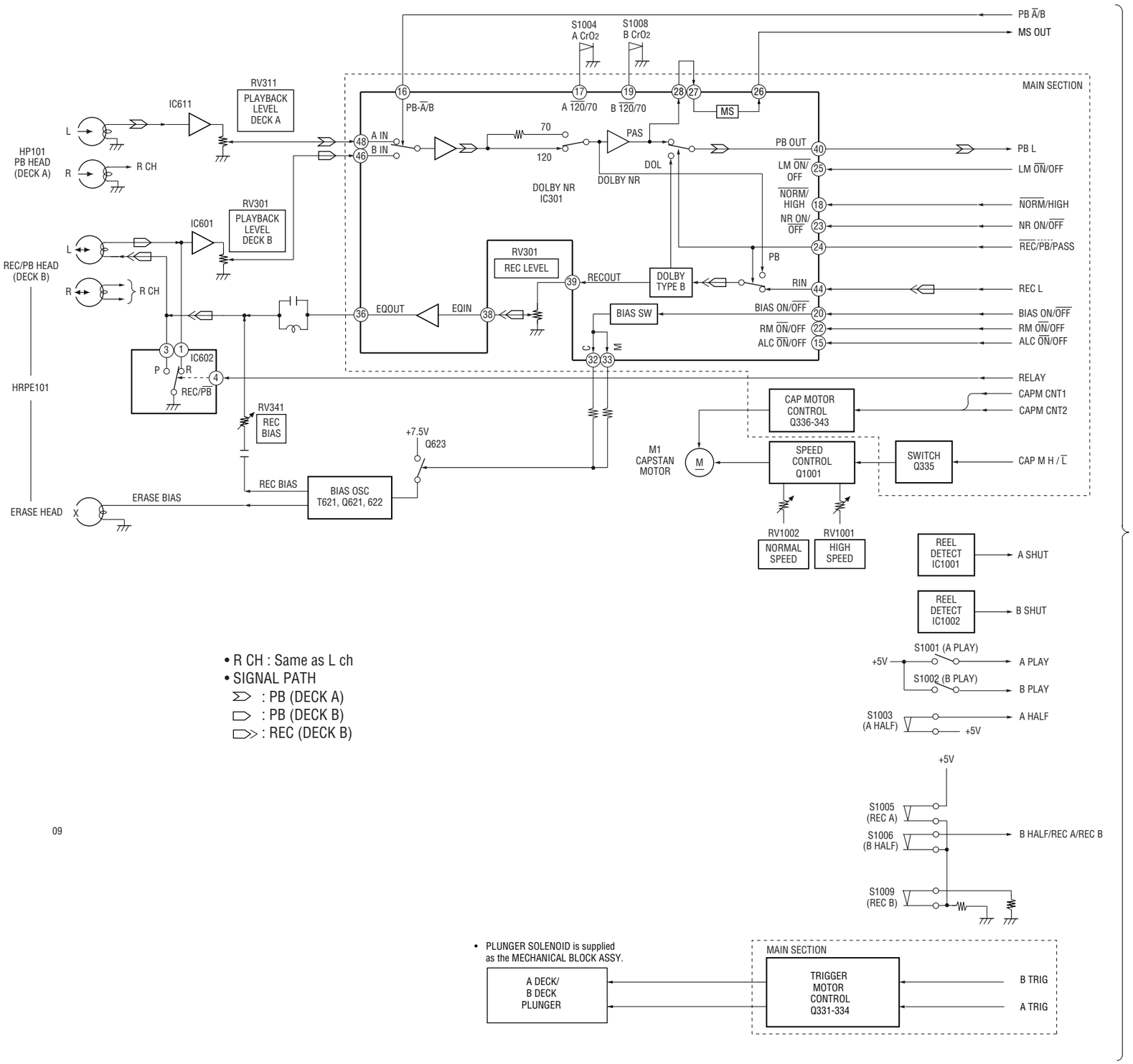
ENCAPSU LATED COMPONENT/TUNER unit is supplied as the assembled block.



7-2. BLOCK DIAGRAMS
– CD SECTION –



– DECK SECTION –

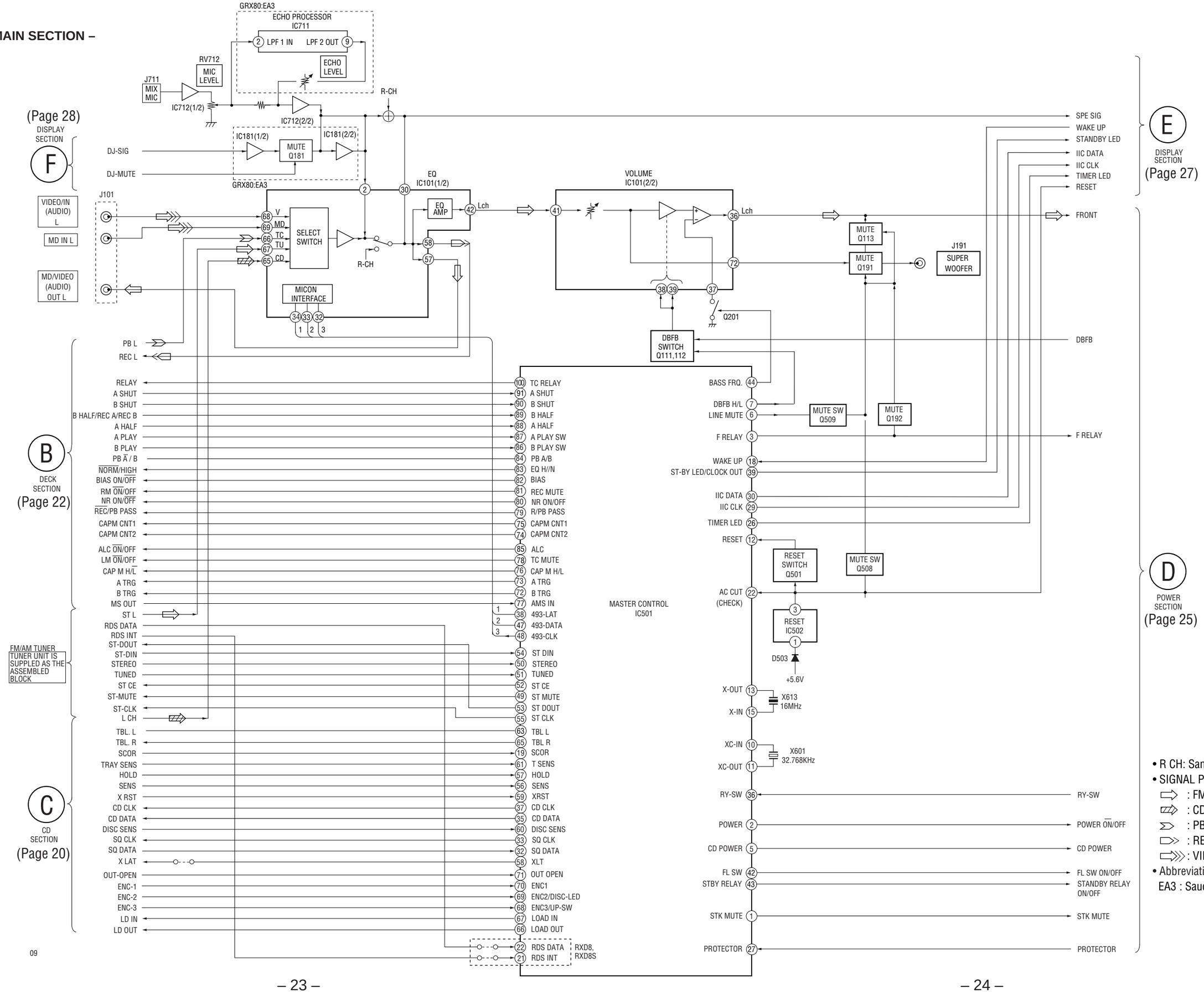


B
MAIN SECTION
(Page 23)

• R CH : Same as L ch
• SIGNAL PATH
  ⩾ : PB (DECK A)
  ▷ : PB (DECK B)
  ▷⩾ : REC (DECK B)

09

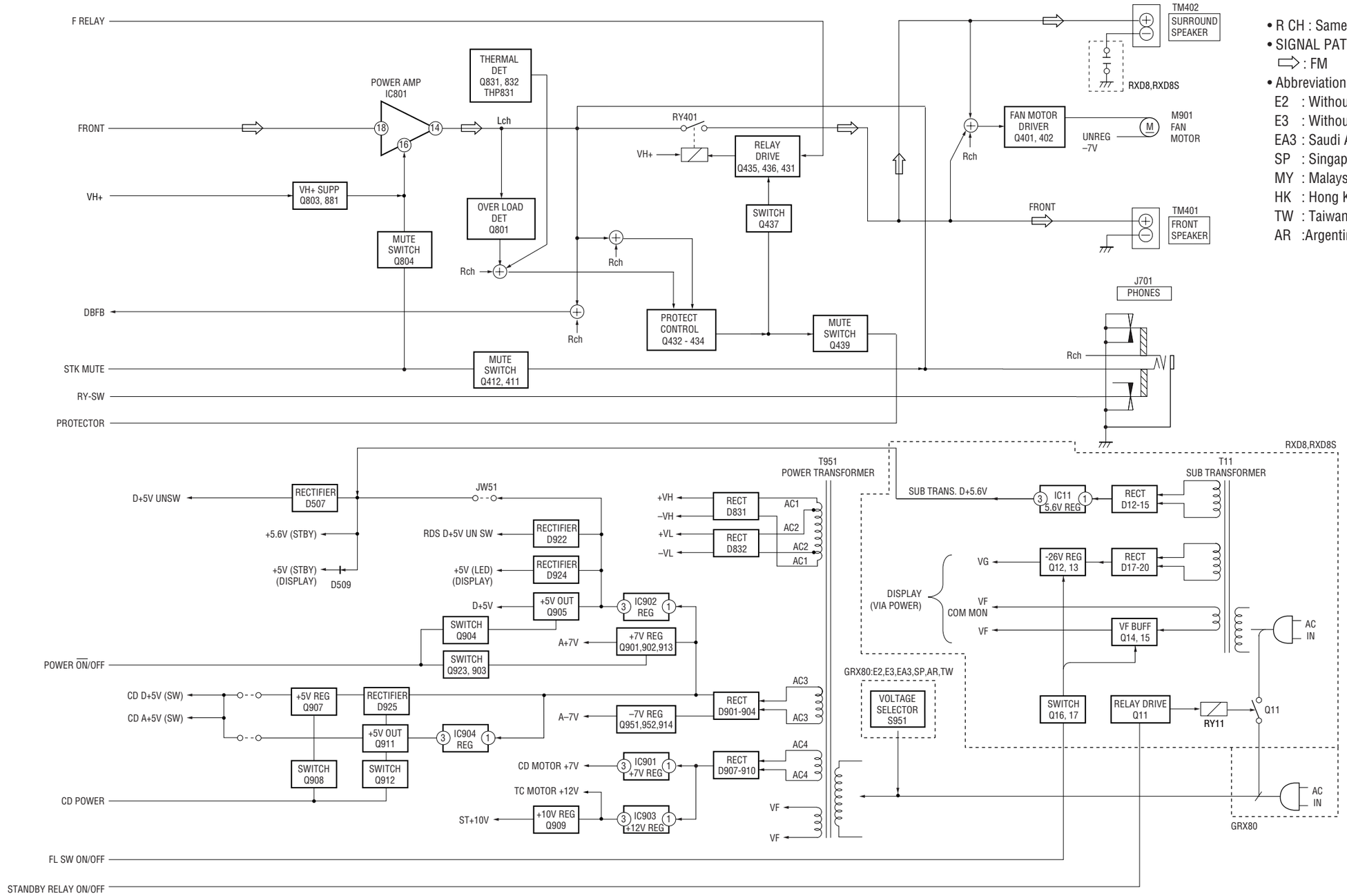
– MAIN SECTION –



- R CH: Same as L ch
- SIGNAL PATH
  - ⇨ : FM
  - ⇨ : CD
  - ⇨ : PB
  - ⇨ : REC
  - ⇨ : VIDEO/MD
- Abbreviation
  EA3 : Saudi Arabia model.

09

– MAIN POWER/SUB POWER SECTION –

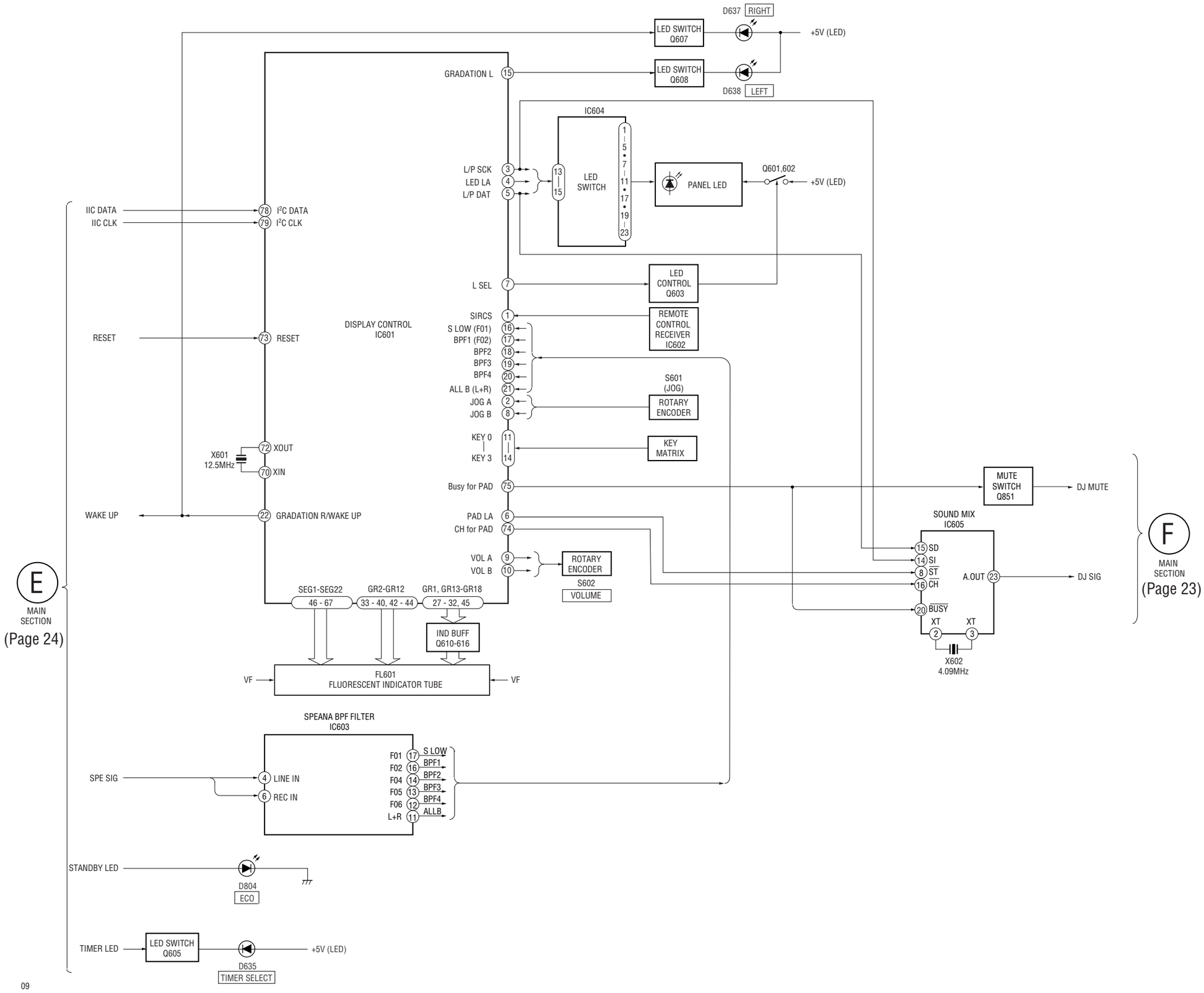


- R CH : Same as L ch
- SIGNAL PATH
  ⇨ : FM
- Abbreviation
  E2 : Without SW tuner E model.
  E3 : Without SW tuner E model.
  EA3 : Saudi Arabia model.
  SP : Singapore model.
  MY : Malaysia model.
  HK : Hong Kong model.
  TW : Taiwan model.
  AR :Argentine model.

D
MAIN SECTION
(Page 24)

09

– DISPLAY SECTION –



THIS NOTE IS COMMON FOR PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS.
(In addition to this, the necessary note is printed in each block.)

For schematic diagrams.

Note:

- All capacitors are in µF unless otherwise noted. pF: µµF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- △ : internal component.
- ▭ : panel designation.

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

- B+ : B+ Line.
- B– : B– Line.
- ▭ : adjustment for repair.
- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  - : FM
  - : AM
  - : VIDEO/MD
  - : PB (DECK A)
  - : PB (DECK B)
  - : REC (DECK B)
  - : CD
  - : digital out
- Abbreviation
  - G : German model.
  - E2 : Without SW tuner E model.
  - E3 : With SW tuner E model.
  - EA3 : Saudi Arabia model.
  - EA4 : Israeli model.
  - AUS : Australian model.
  - SP : Singapore model.
  - TW : Taiwan model.
  - AR : Argentine model.
  - TH : Thailand model.
  - MX : Mexican model.

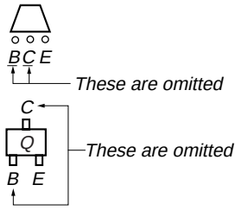
For printed wiring boards.

Note:

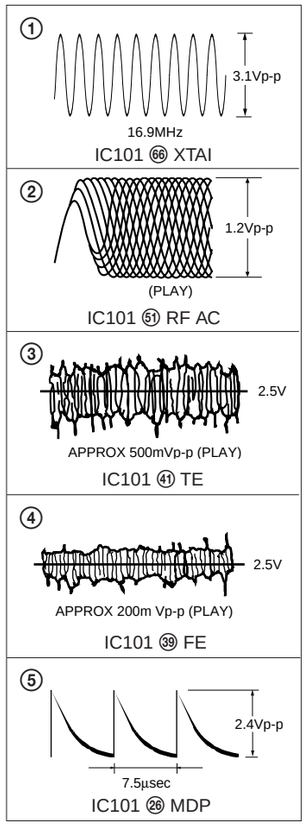
- ○——— : parts extracted from the component side.
- ■ : parts mounted on the conductor side.
- ○ : Through hole.
- ▒▒ : Pattern from the side which enables seeing.

(The other layers' patterns are not indicated.)

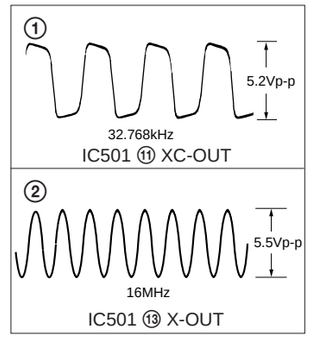
- **Indication of transistor**



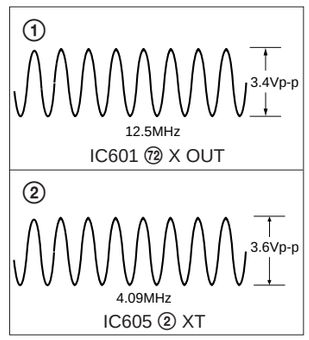
WAVEFORMS
– BD (CD) SECTION –



– MAIN (3/4) SECTION –



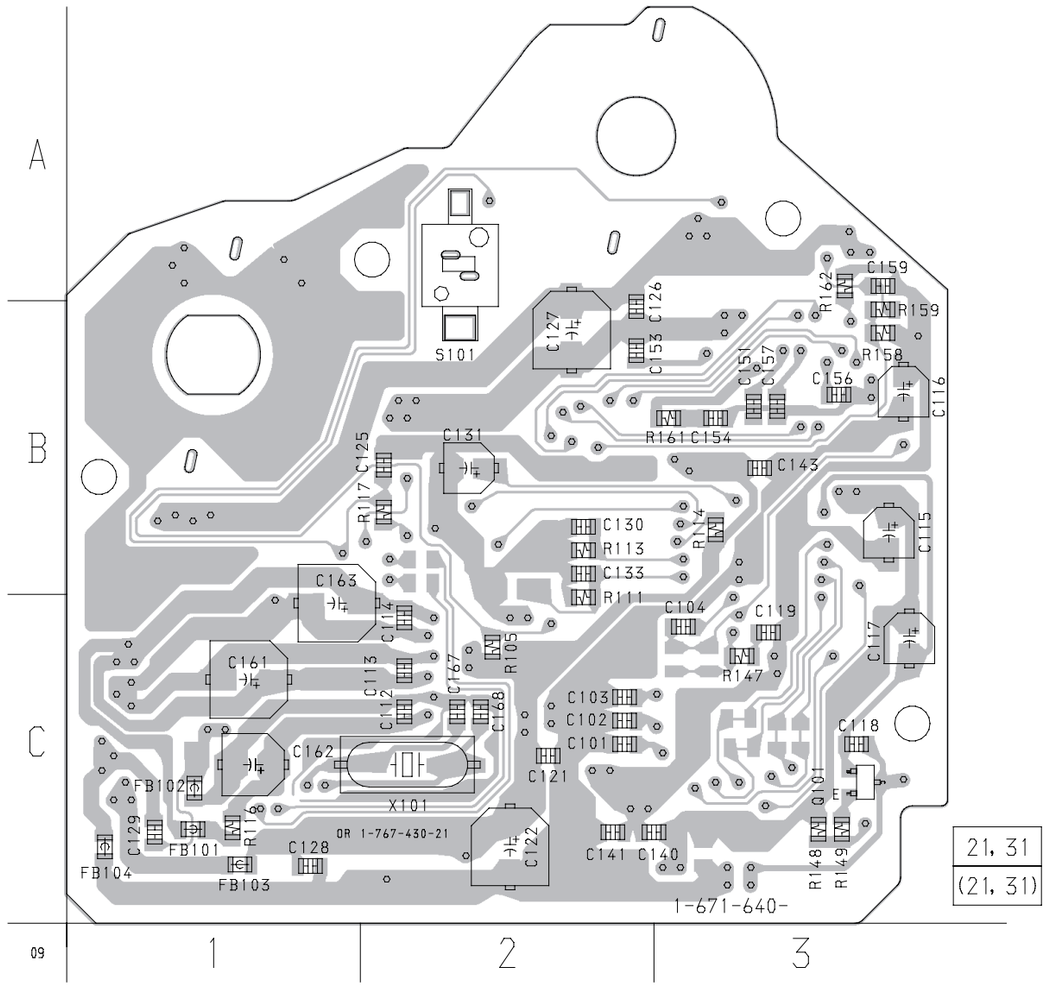
– PANEL (2/3) SECTION –



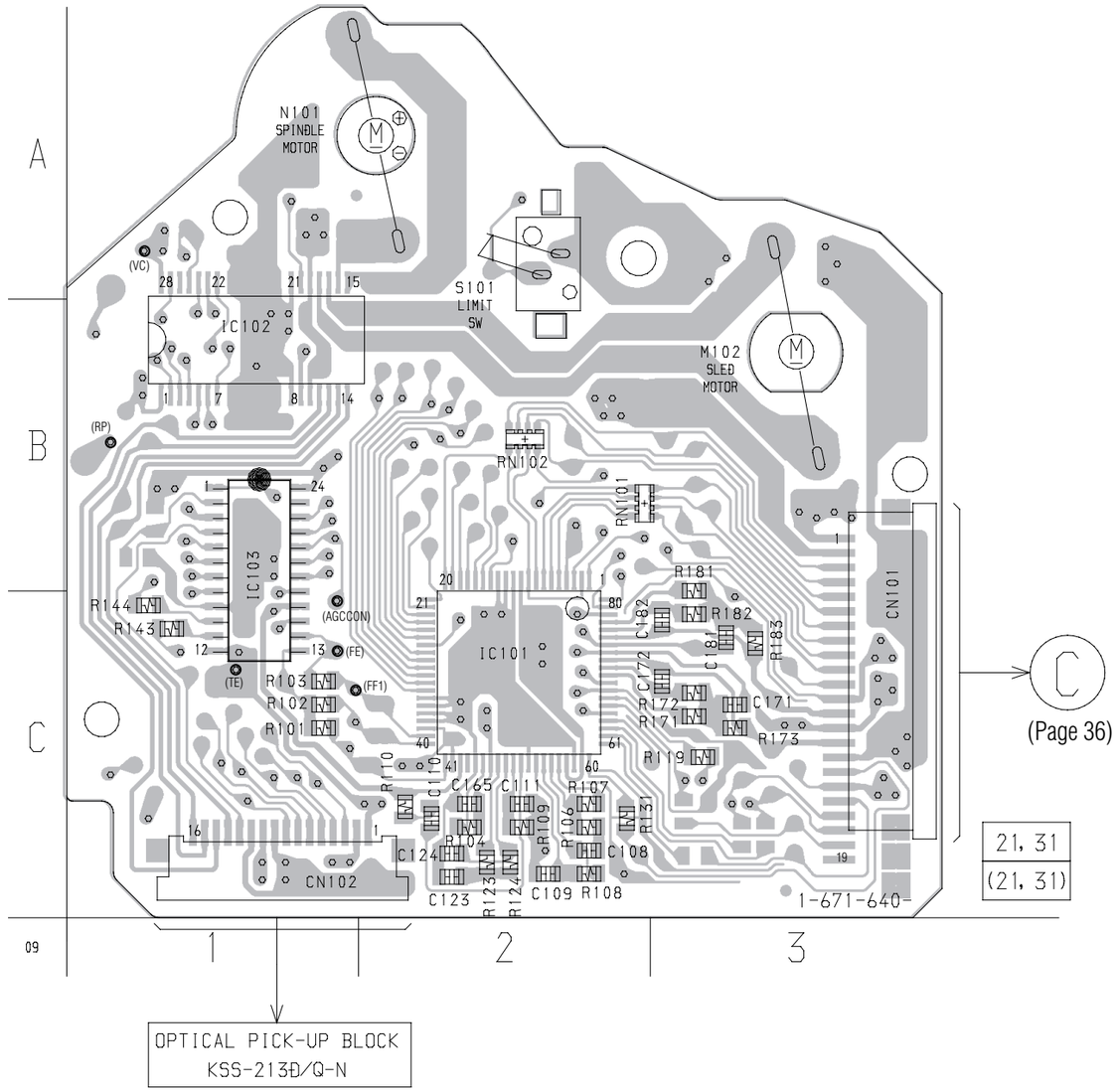
7-3. PRINTED WIRING BOARD – BD (CD) SECTION –

• See page 18 for Circuit Boards Location.

【 BD (CD) BOARD 】(SIDE A)

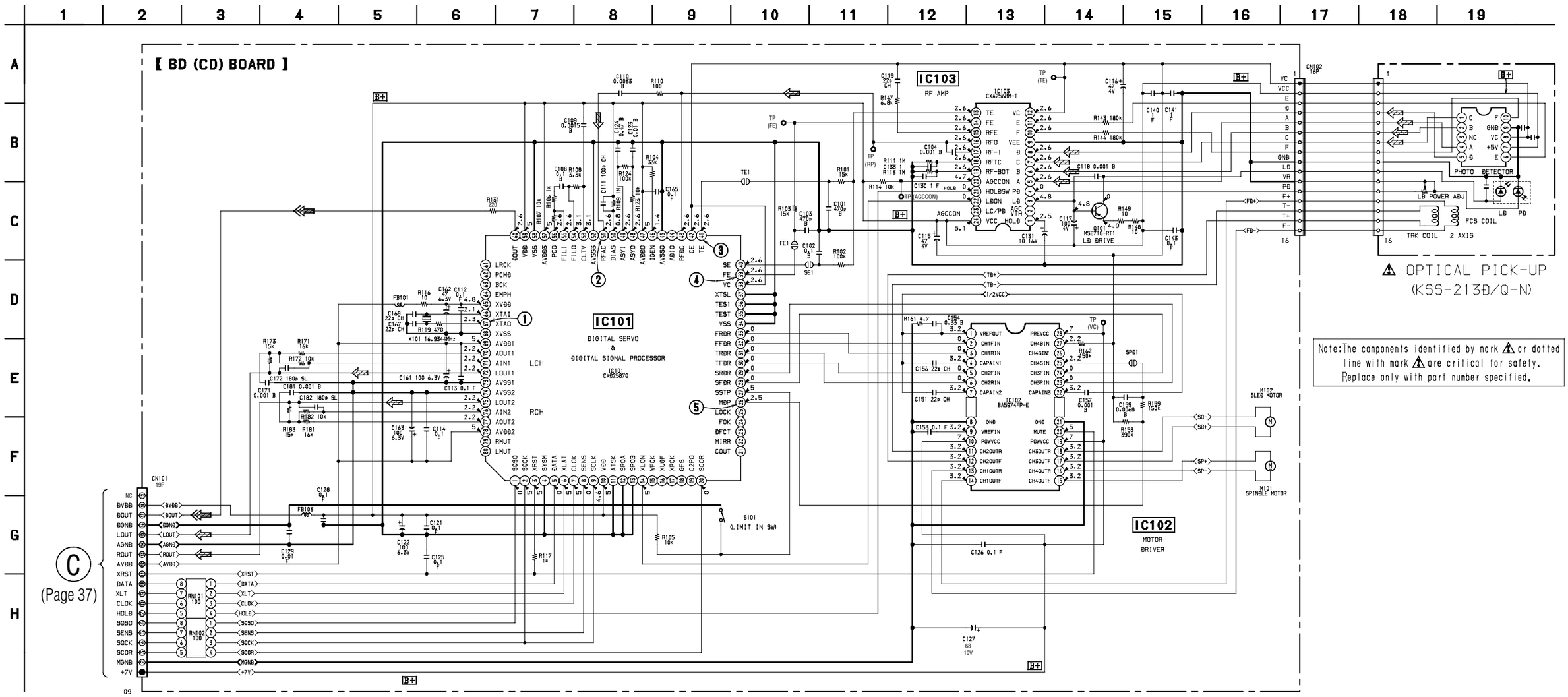


【 BD (CD) BOARD 】(SIDE B)



7-4. SCHEMATIC DIAGRAM – BD (CD) SECTION –

• See page 30 for Waveforms.

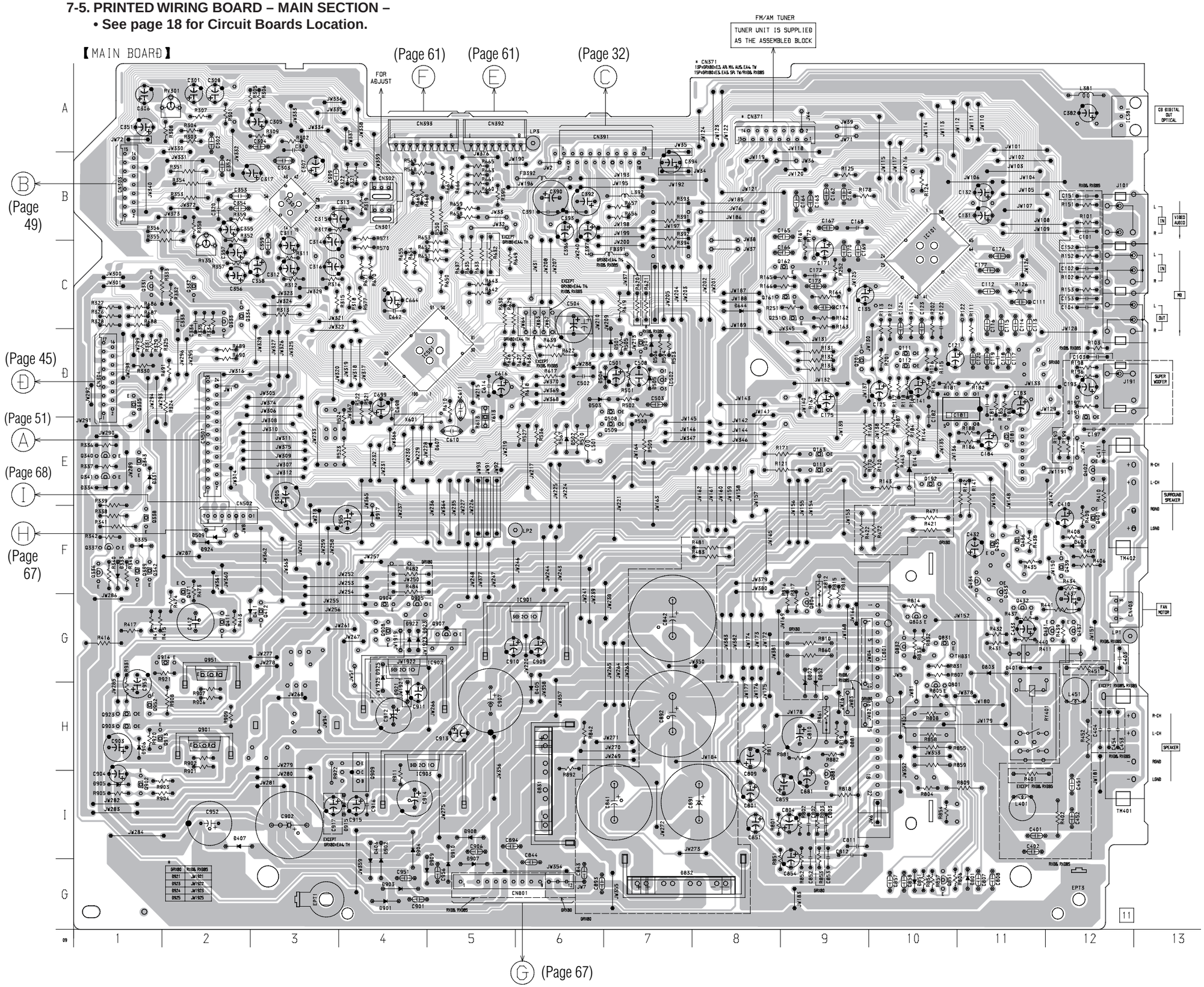


7-5. PRINTED WIRING BOARD – MAIN SECTION –

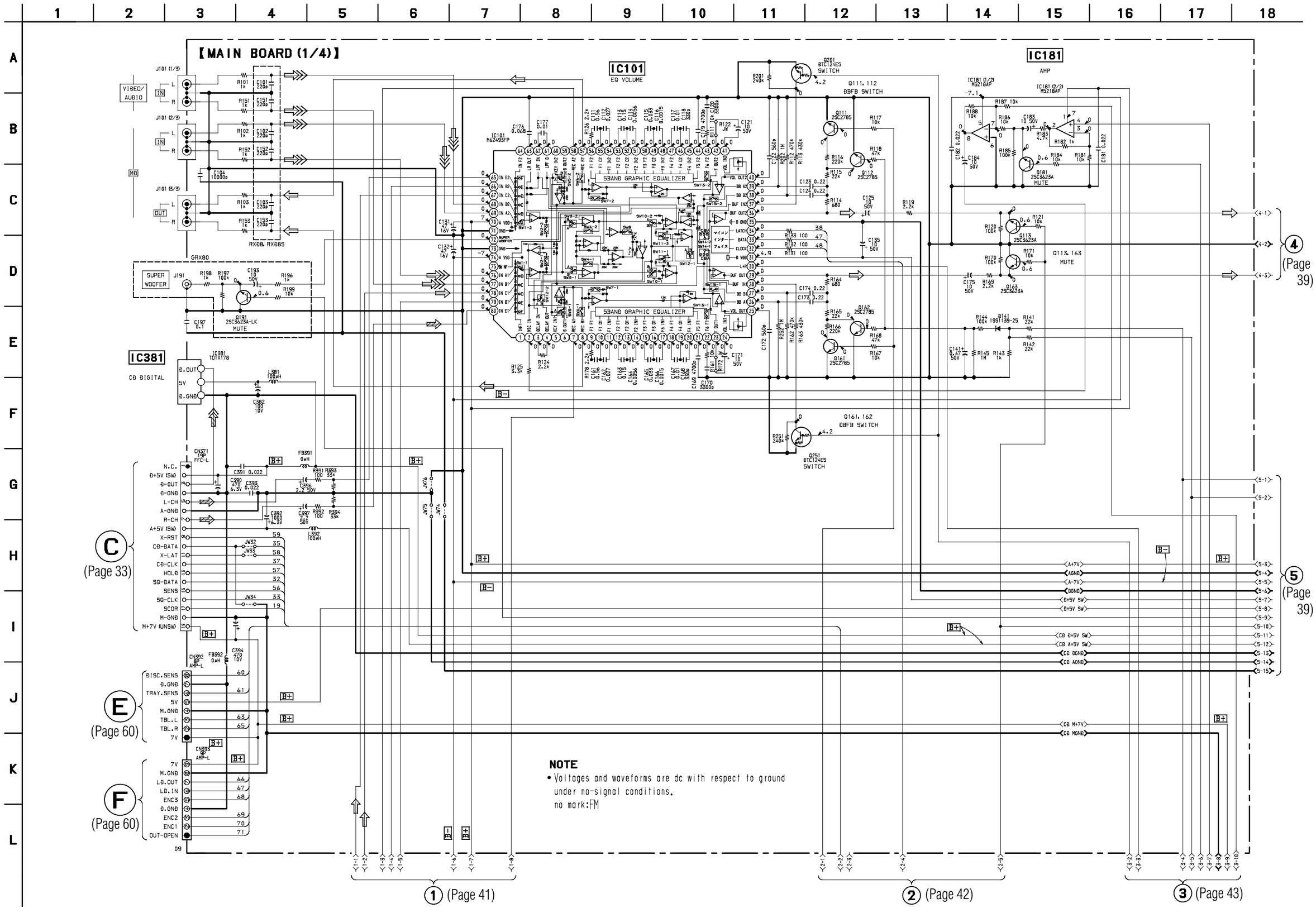
• See page 18 for Circuit Boards Location.

• **Semiconductor Location**

Ref. No.	Location	Ref. No.	Location
D141	E-10	Q113	E-9
D191	E-10	Q161	C-9
D331	E-1	Q162	C-9
D334	E-1	Q163	E-9
D335	F-1	Q181	E-11
D401	G-11	Q191	E-10
D403	F-12	Q192	E-10
D405	H-6	Q201	D-9
D406	I-4	Q251	C-9
D407	I-2	Q331	C-1
D411	G-3	Q332	C-2
D501	D-7	Q333	C-2
D502	E-6	Q334	C-2
D503	D-6	Q335	D-1
D504	D-7	Q336	F-1
D505	D-7	Q337	F-1
D506	D-7	Q338	F-1
D509	F-2	Q339	F-1
D607	E-5	Q340	E-1
D644	C-8	Q341	E-1
D801	J-11	Q342	E-1
D802	G-9	Q343	E-1
D803	G-11	Q401	F-12
D831	I-6	Q402	E-12
D832	J-7	Q411	G-2
D851	J-10	Q412	G-2
D852	G-9	Q431	G-12
D881	H-9	Q432	G-11
D901	J-4	Q433	F-11
D902	I-4	Q434	F-11
D903	J-4	Q435	F-11
D904	I-4	Q436	F-11
D905	I-1	Q437	G-12
D906	H-1	Q439	F-12
D907	J-5	Q471	F-12
D908	I-5	Q501	D-7
D909	J-5	Q508	D-7
D910	J-5	Q509	E-7
D915	I-4	Q801	H-10
D921	H-4	Q803	G-10
D922	G-4	Q804	G-9
D923	G-4	Q831	G-10
D924	F-2	Q832	G-10
D925	G4	Q851	J-11
D971	?	Q881	I-9
		Q901	H-2
IC101	B-10	Q902	I-1
IC181	D-11	Q903	H-1
IC301	B-3	Q904	G-4
IC381	A-12	Q905	G-4
IC501	D-5	Q907	G-5
IC502	D-7	Q908	G-4
IC801	G-10	Q909	I-4
IC901	G-6	Q913	H-1
IC902	G-4	Q914	G-2
IC903	I-4	Q923	H-1
		Q951	G-2
Q111	D-10	Q952	H-1
Q112	D-10		

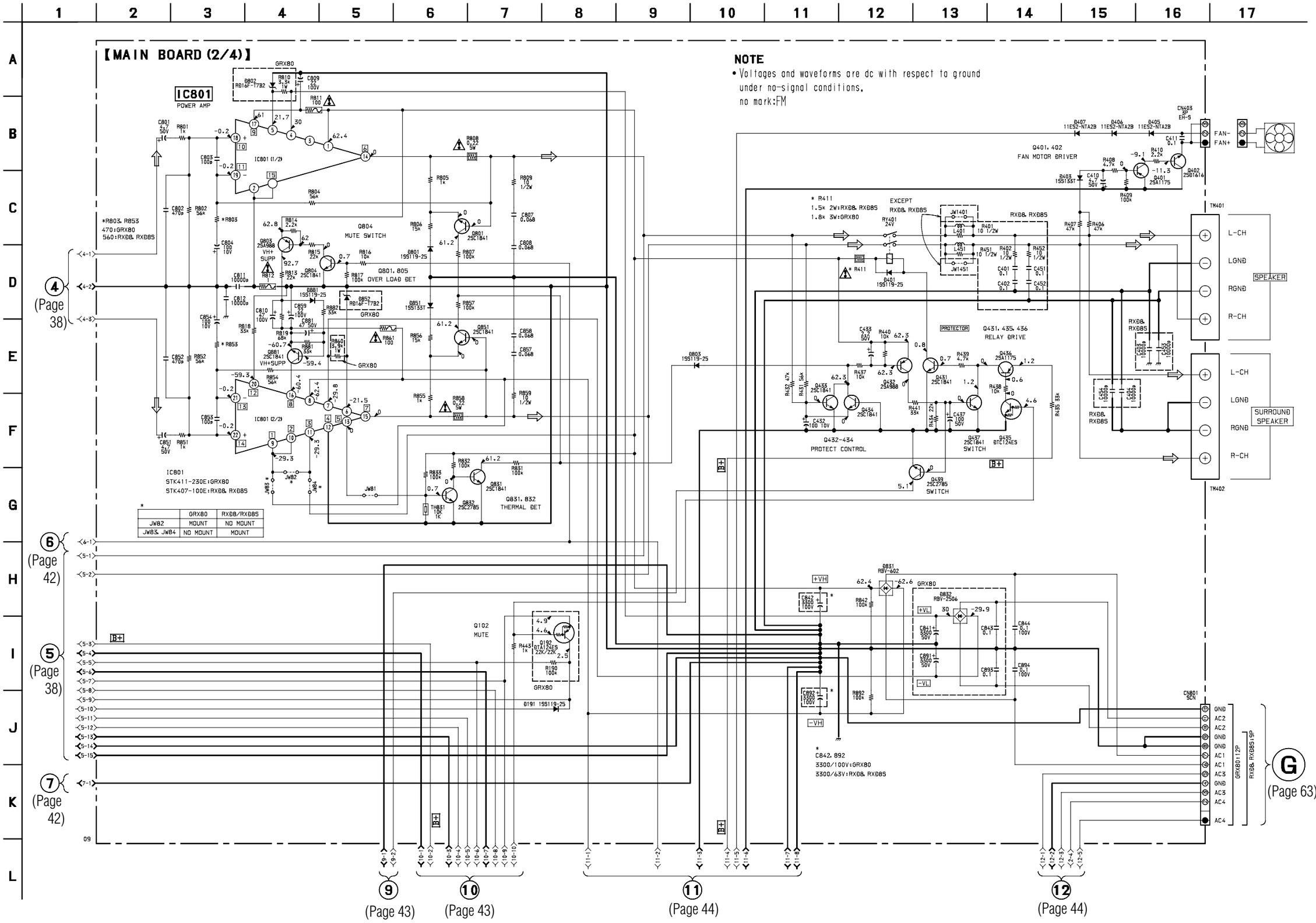


7-6. SCHEMATIC DIAGRAM – MAIN (1/4) SECTION –



7-7. SCHEMATIC DIAGRAM – MAIN (2/4) SECTION –

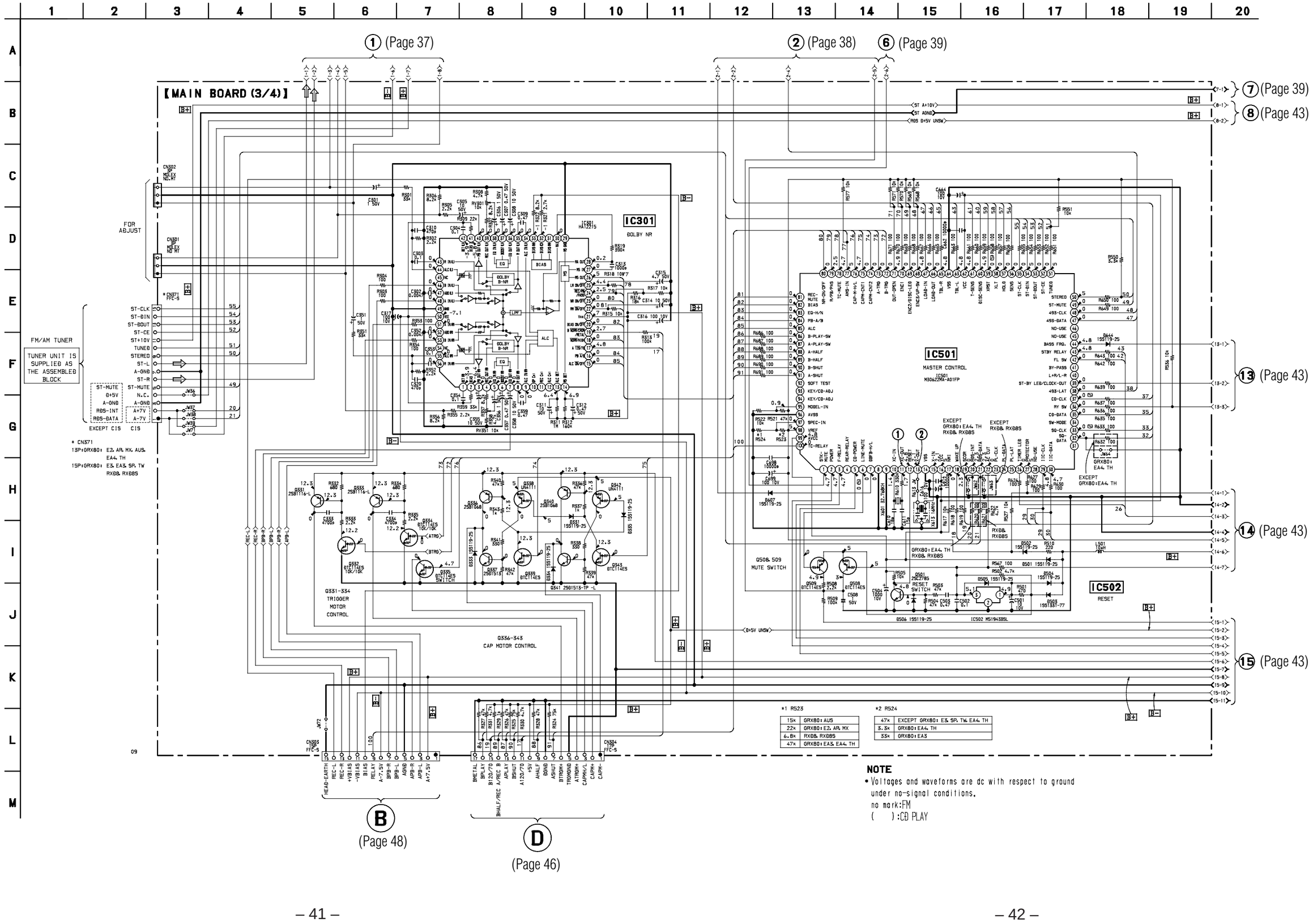
• See page 35 for Printed Wiring Board.



	GRX80	RXD8/RXD8S
JW82	MOUNT	NO MOUNT
JW83, JW84	NO MOUNT	MOUNT

7-8. SCHEMATIC DIAGRAM – MAIN (3/4) SECTION –

- See page 30 for Waveforms.
- See page 35 for Printed Wiring Board.
- See page 70 for IC Pin Functions.

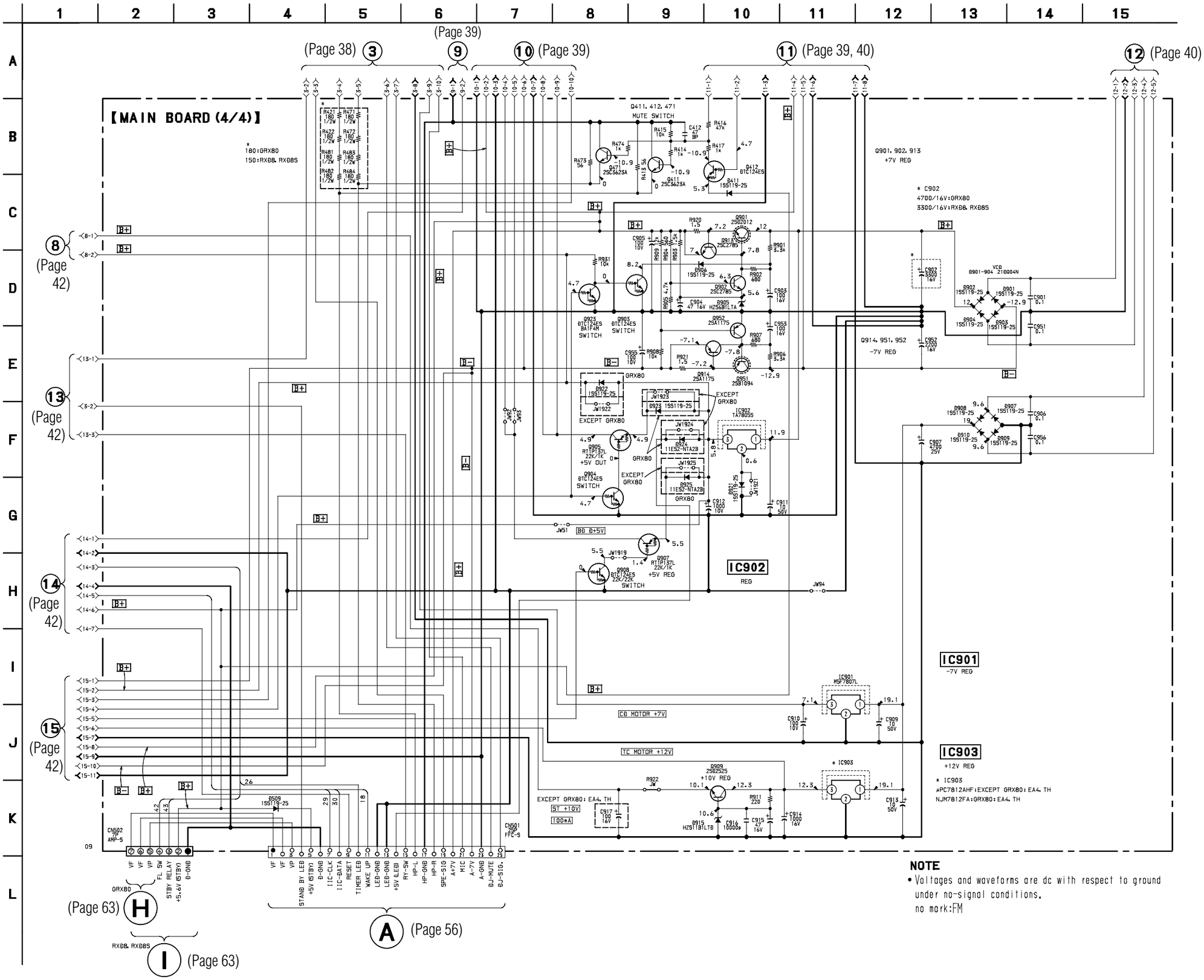


NOTE

- Voltages and waveforms are dc with respect to ground under no-signal conditions.
  no mark:FM
  ( ):CD PLAY

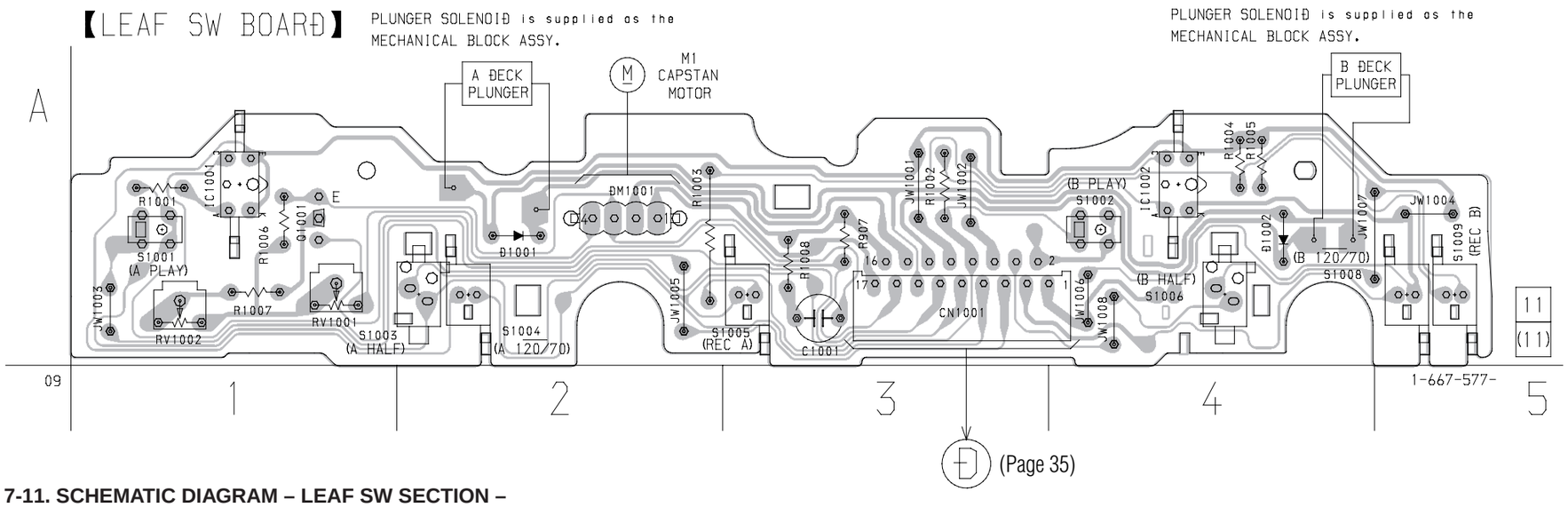
7-9. SCHEMATIC DIAGRAM – MAIN (4/4) SECTION –

• See page 35 for Printed Wiring Board.

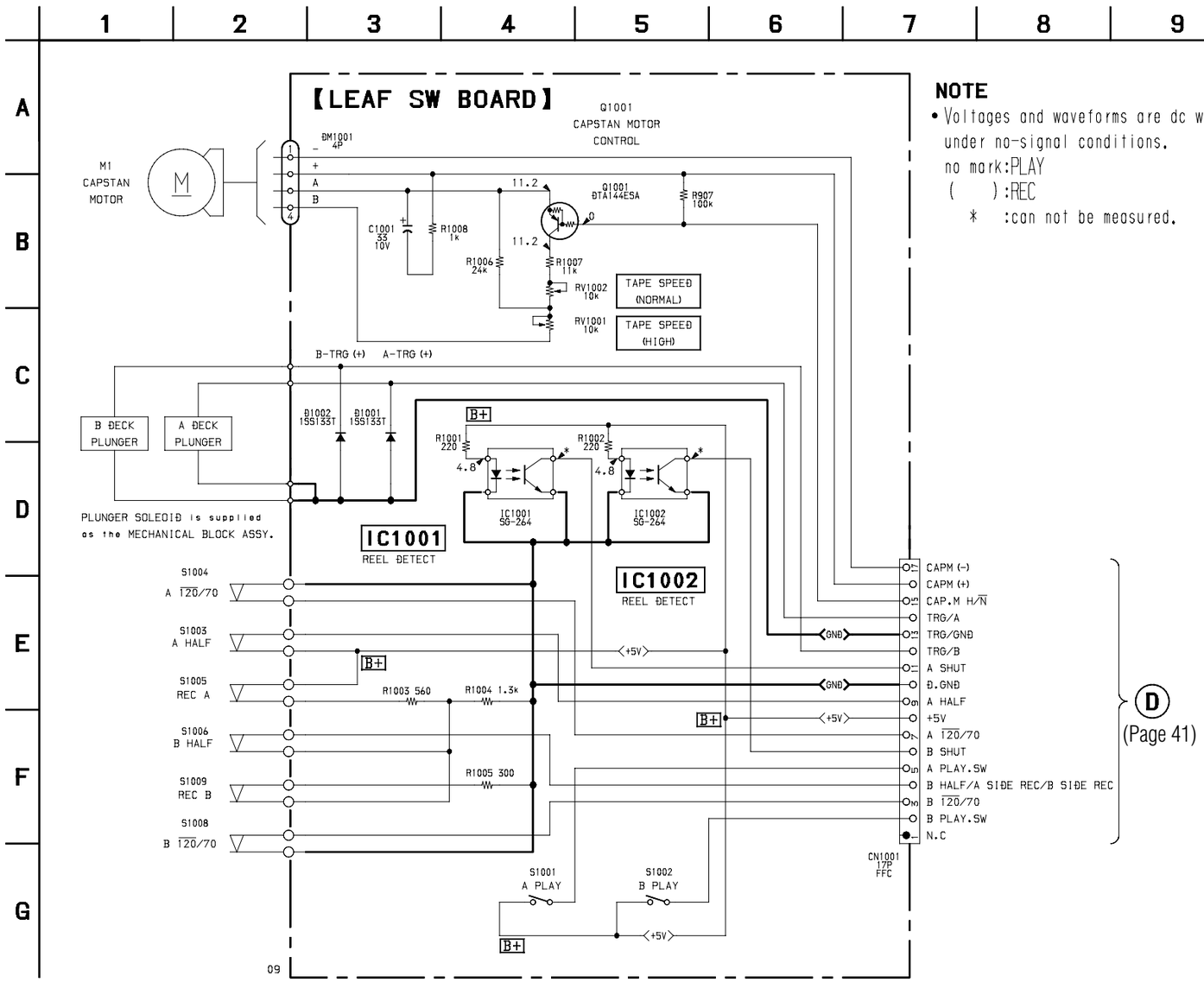


7-10. PRINTED WIRING BOARD – LEAF SW SECTION –

• See page 18 for Circuit Boards Location.



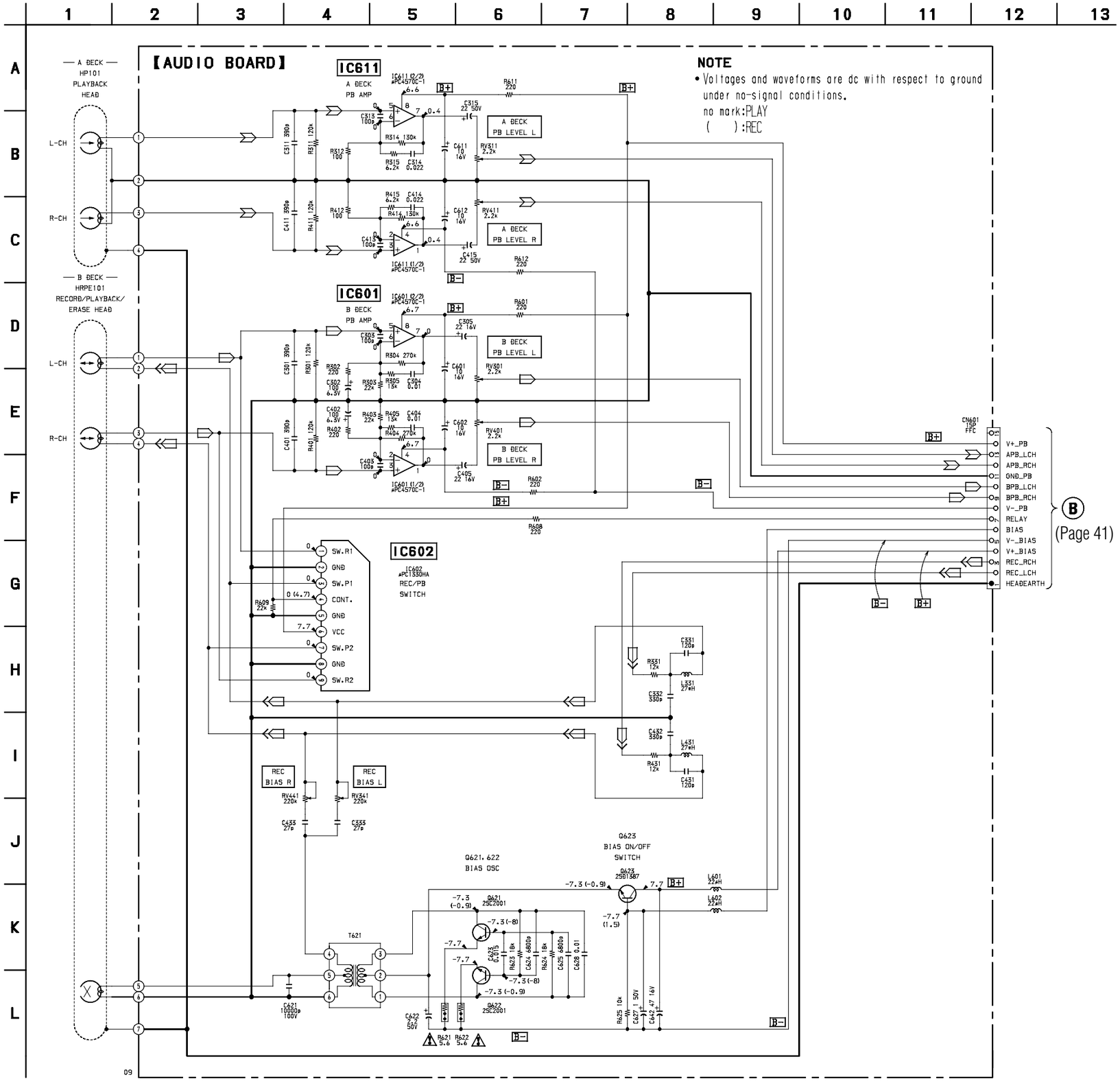
7-11. SCHEMATIC DIAGRAM – LEAF SW SECTION –



NOTE

- Voltages and waveforms are dc with respect to ground under no-signal conditions.
  no mark:PLAY
  ( ):REC
  * :can not be measured.

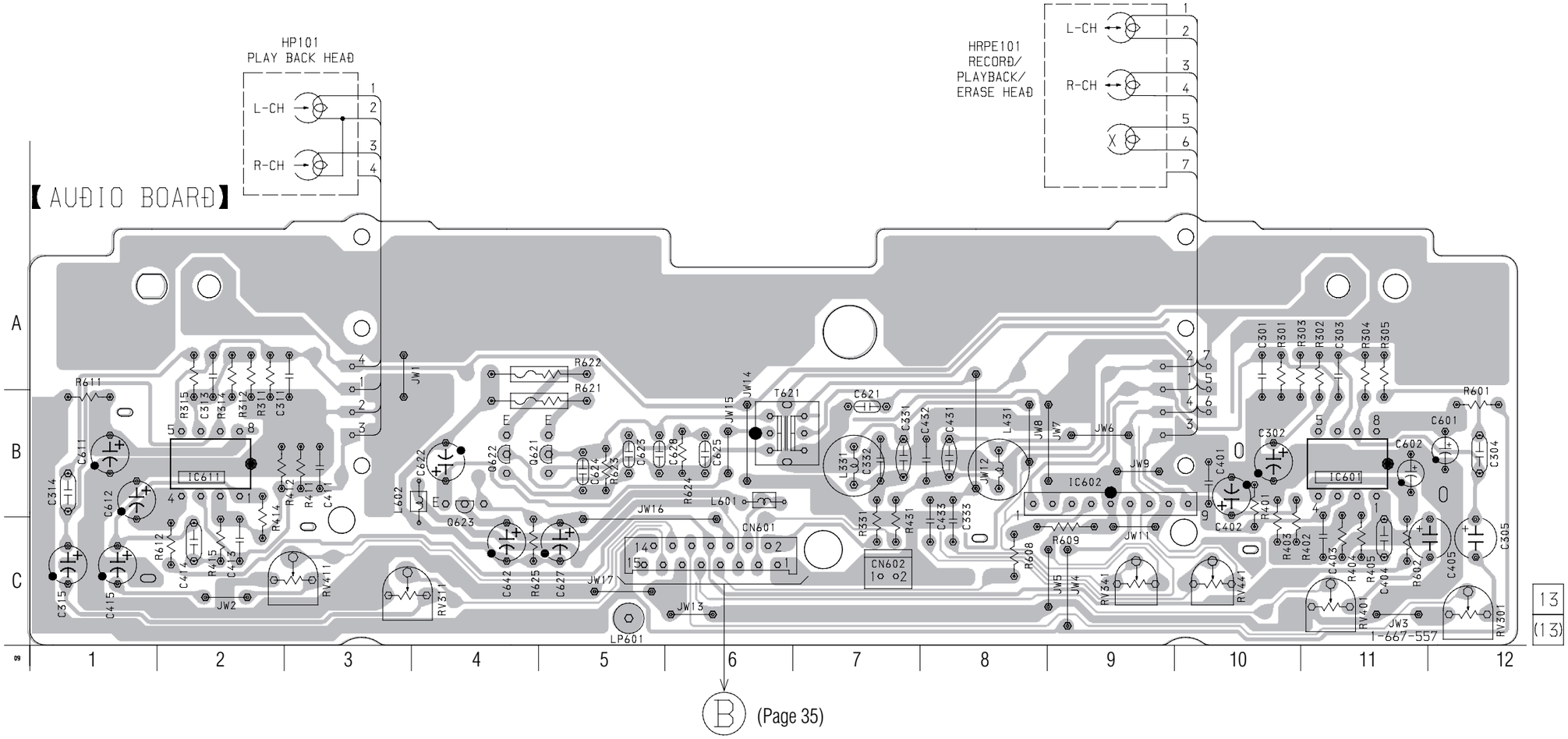
7-12. SCHEMATIC DIAGRAM – DECK SECTION –



Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

7-13. PRINTED WIRING BOARD – DECK SECTION –

• See page 18 for Circuit Boards Location.



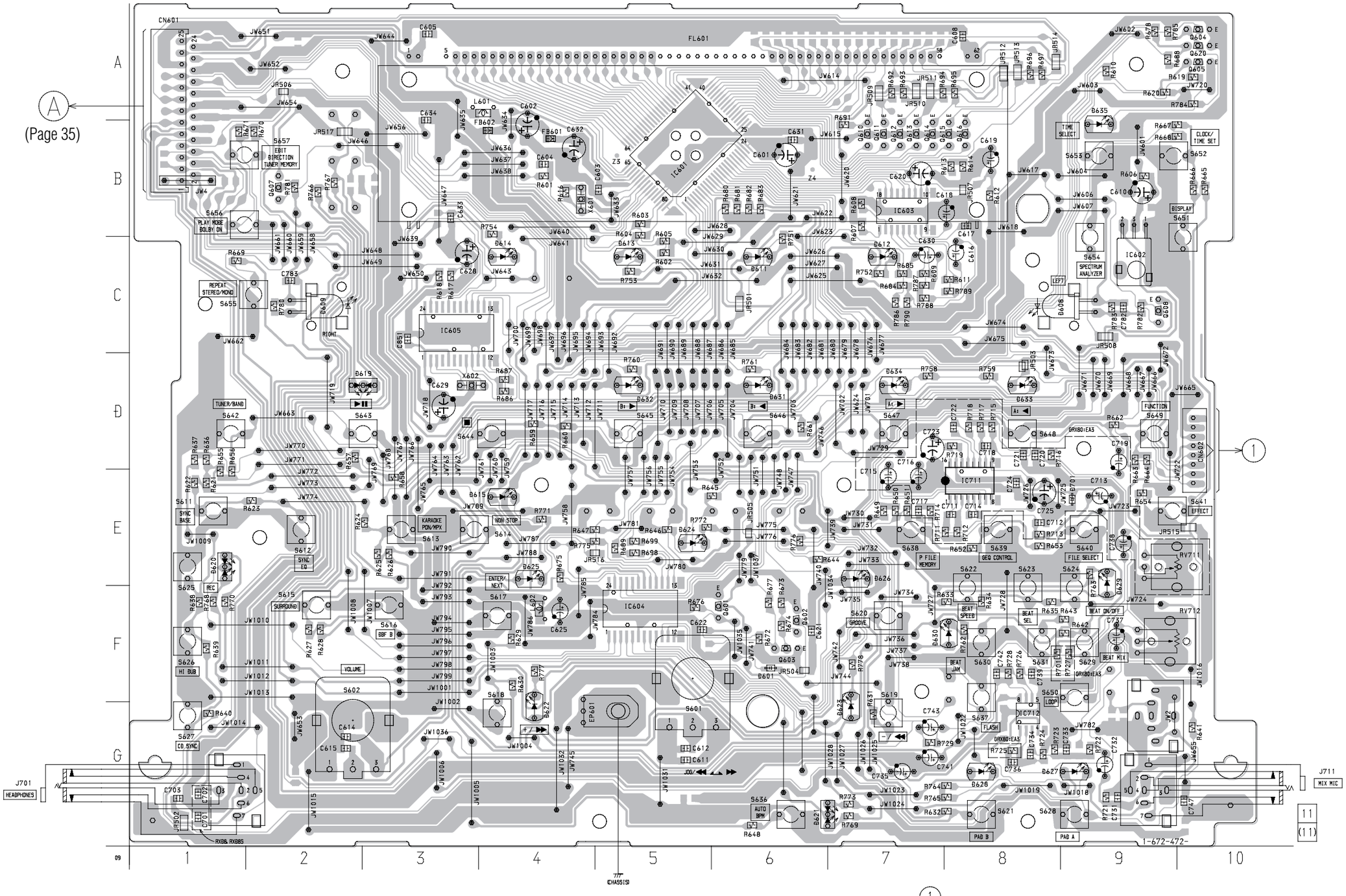
7-14. PRINTED WIRING BOARD – PANEL SECTION –

• See page 18 for Circuit Boards Location.

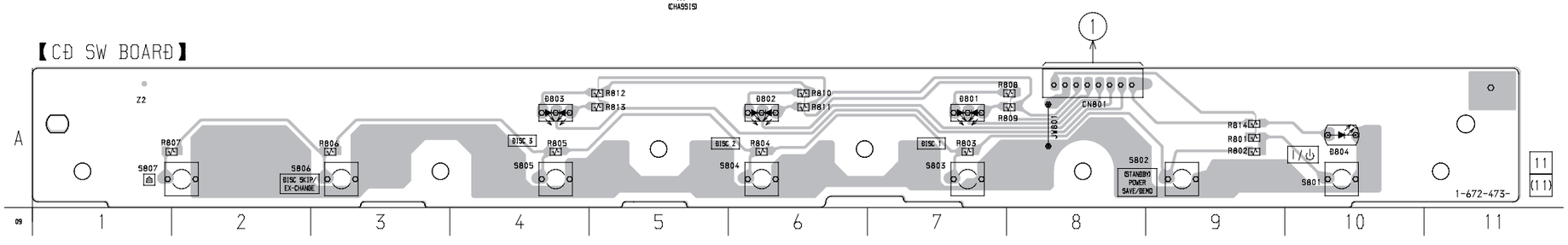
• **Semiconductor Location**

Ref. No.	Location
D601	F-6
D608	C-9
D609	C-2
D611	C-6
D612	C-7
D613	C-5
D614	C-4
D615	E-4
D619	D-3
D620	E-1
D621	G-7
D622	G-4
D623	G-7
D624	E-5
D625	E-4
D626	E-7
D627	G-9
D628	G-8
D629	F-9
D630	F-8
D631	D-6
D632	D-5
D633	D-8
D634	D-7
D635	A-9
D701	E-9
IC601	B-5
IC602	C-9
IC603	B-7
IC604	F-5
IC605	C-4
IC711	E-8
IC712	G-8
Q601	F-6
Q602	F-6
Q603	F-6
Q604	A-10
Q605	A-10
Q607	B-2
Q608	C-9
Q610	B-7
Q611	B-7
Q612	B-7
Q613	B-7
Q614	B-7
Q615	B-8
Q616	B-8
Q620	A-10

【PANEL BOARD】

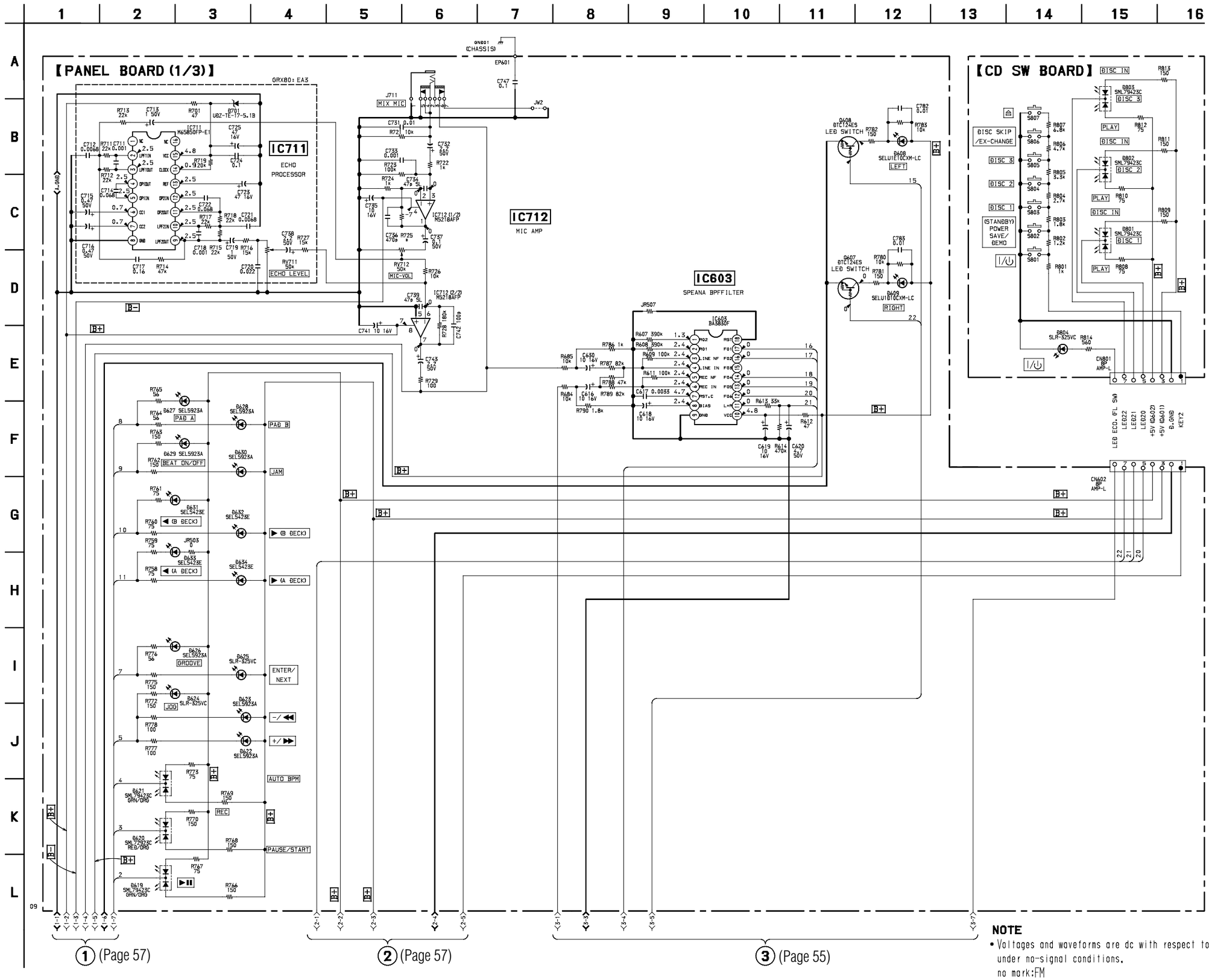


【CD SW BOARD】



7-15. SCHEMATIC DIAGRAM – PANEL (1/3) SECTION –

• See page 69 for IC Block Diagrams.

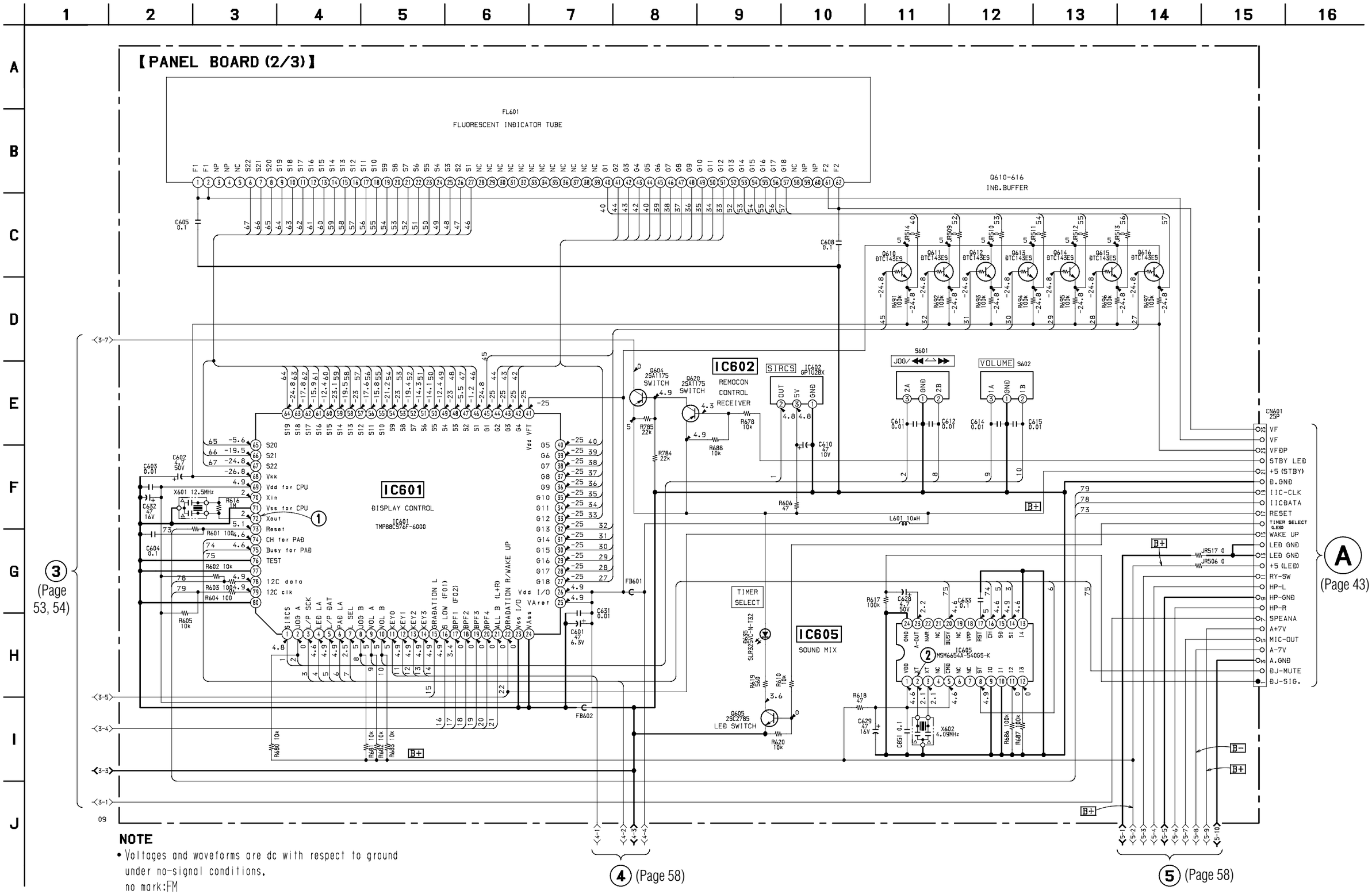


NOTE

• Voltages and waveforms are dc with respect to ground under no-signal conditions.
no mark:FM

7-16. SCHEMATIC DIAGRAM – PANEL (2/3) SECTION –

- See page 30 for Waveforms.
- See page 51 for Printed Wiring Board.
- See page 69 for IC Block Diagrams.
- See page 72 for IC Pin Functions.

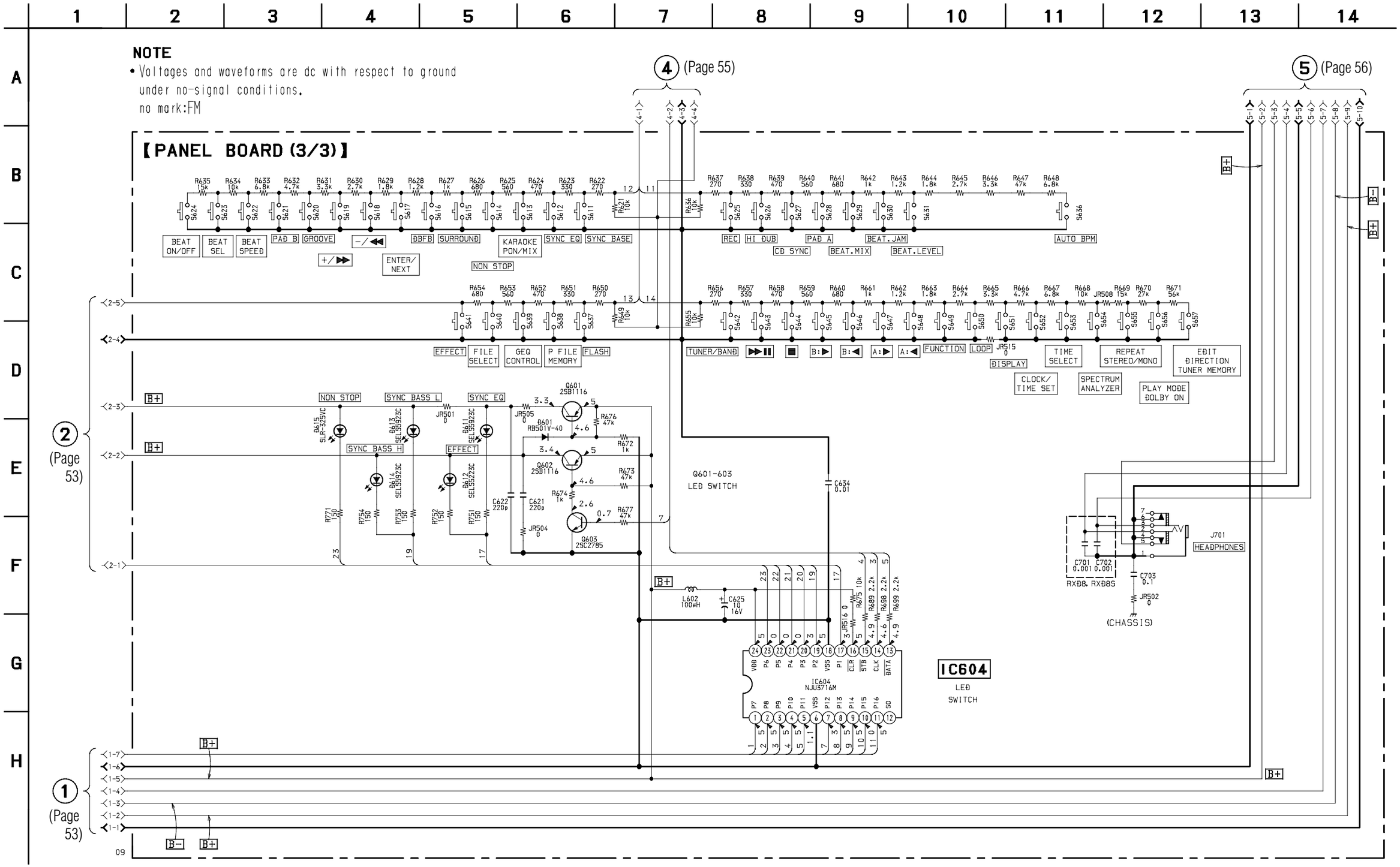


NOTE

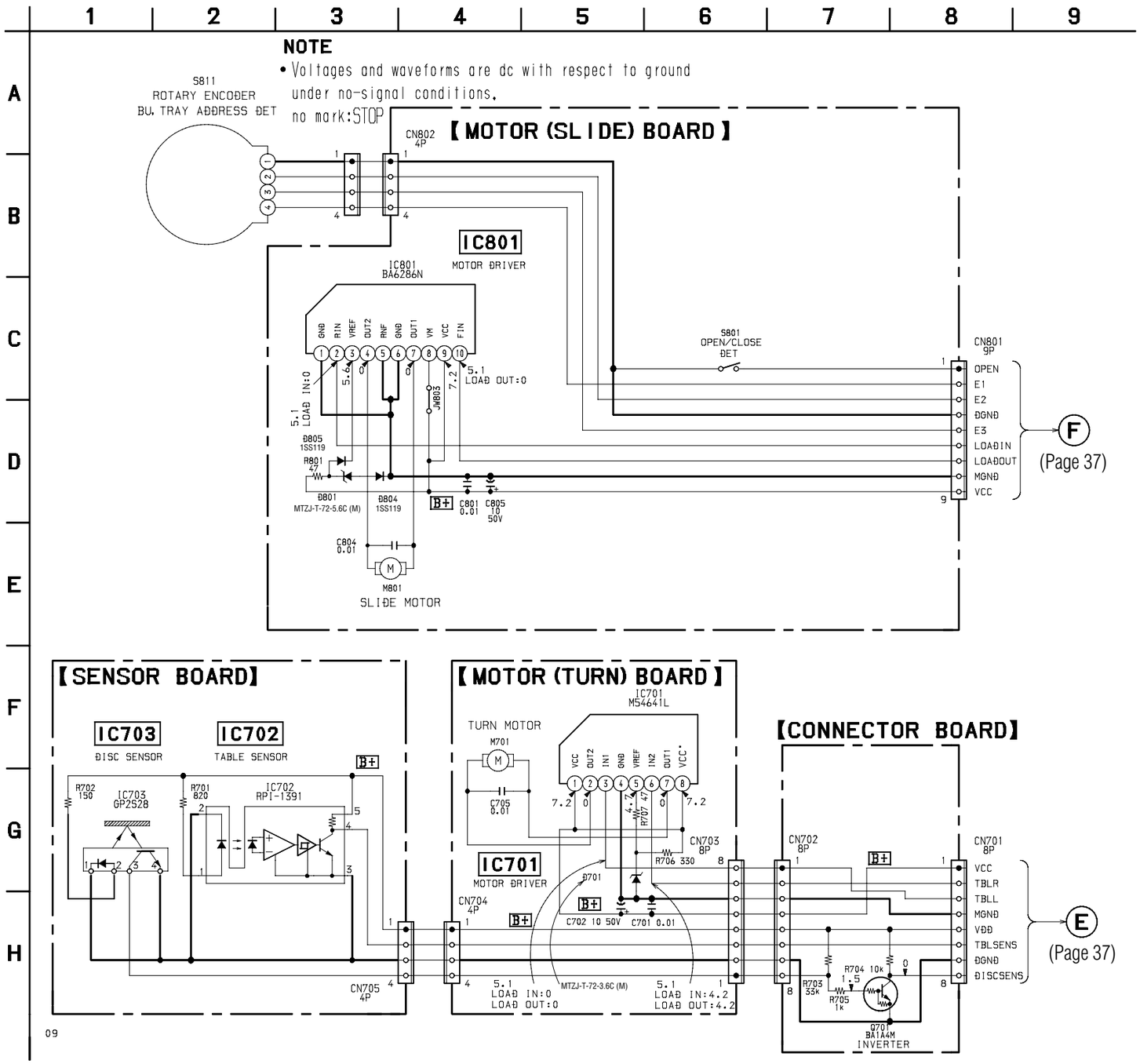
- Voltages and waveforms are dc with respect to ground under no-signal conditions.
  no mark:FM

7-17. SCHEMATIC DIAGRAM – PANEL (3/3) SECTION –

- **See page 51 for Printed Wiring Board.**
- **See page 69 for IC Block Diagrams.**

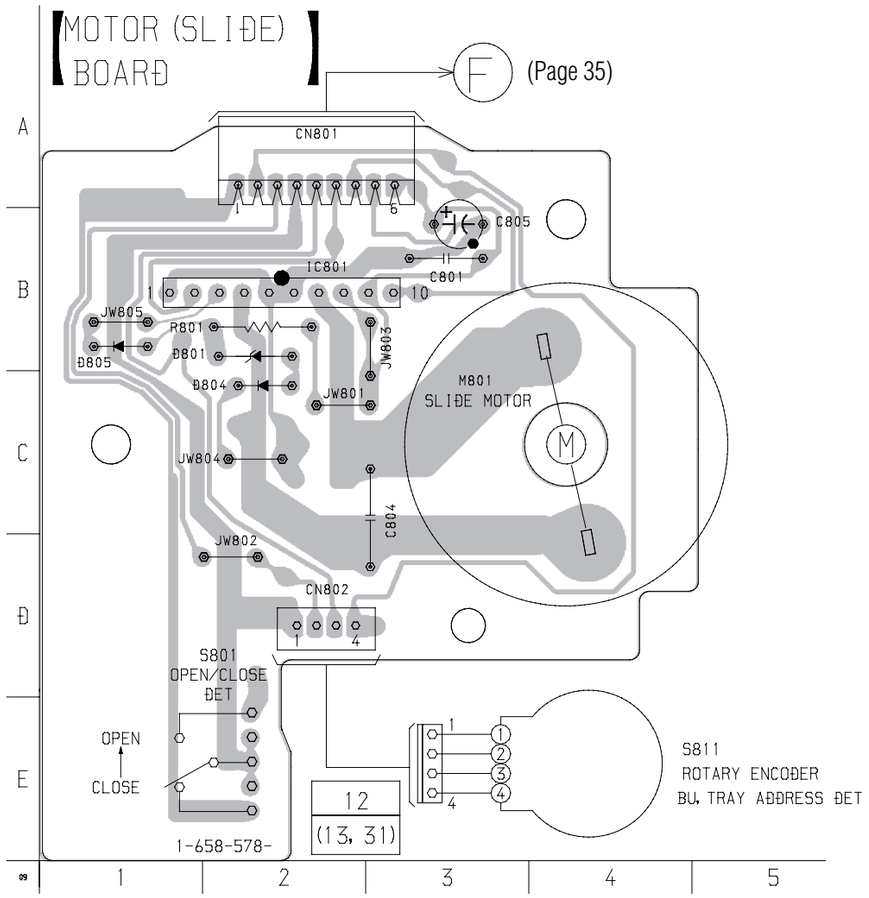


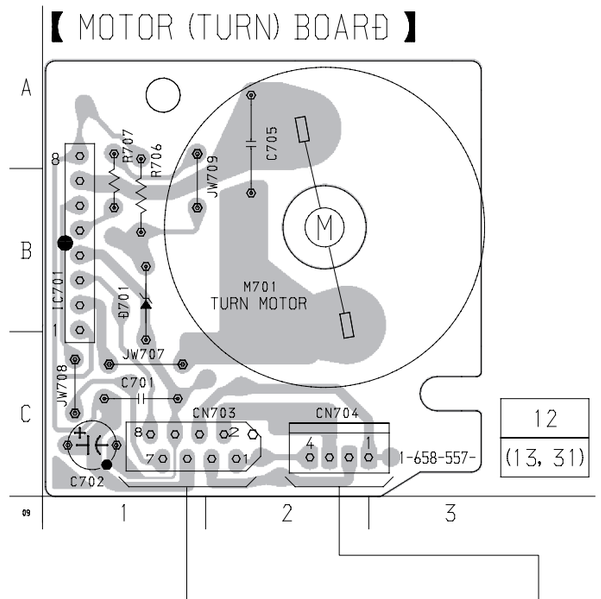
7-18. SCHEMATIC DIAGRAM – CD MOTOR SECTION –

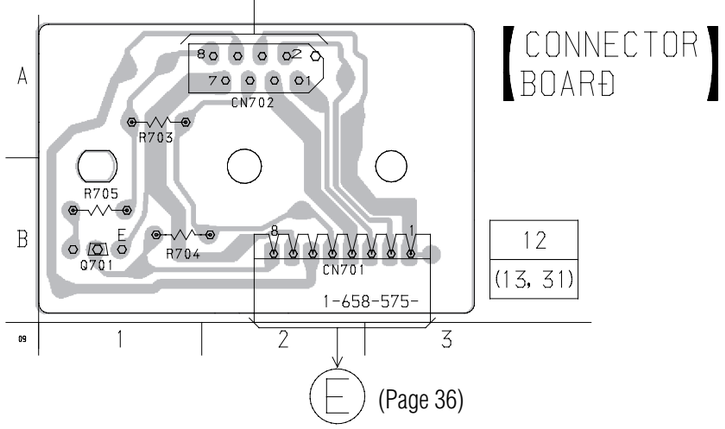


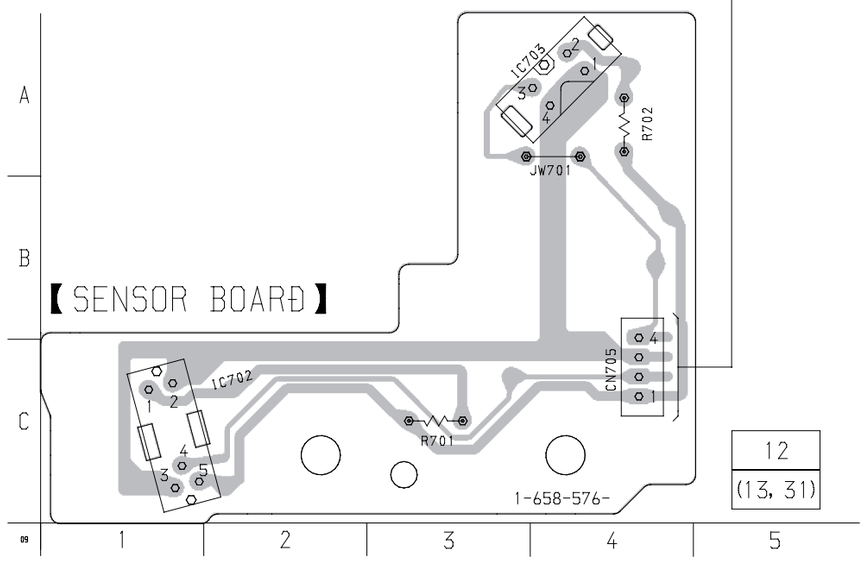
7-19. PRINTED WIRING BOARD – CD MOTOR SECTION –

• See page 18 for Circuit Boards Location.



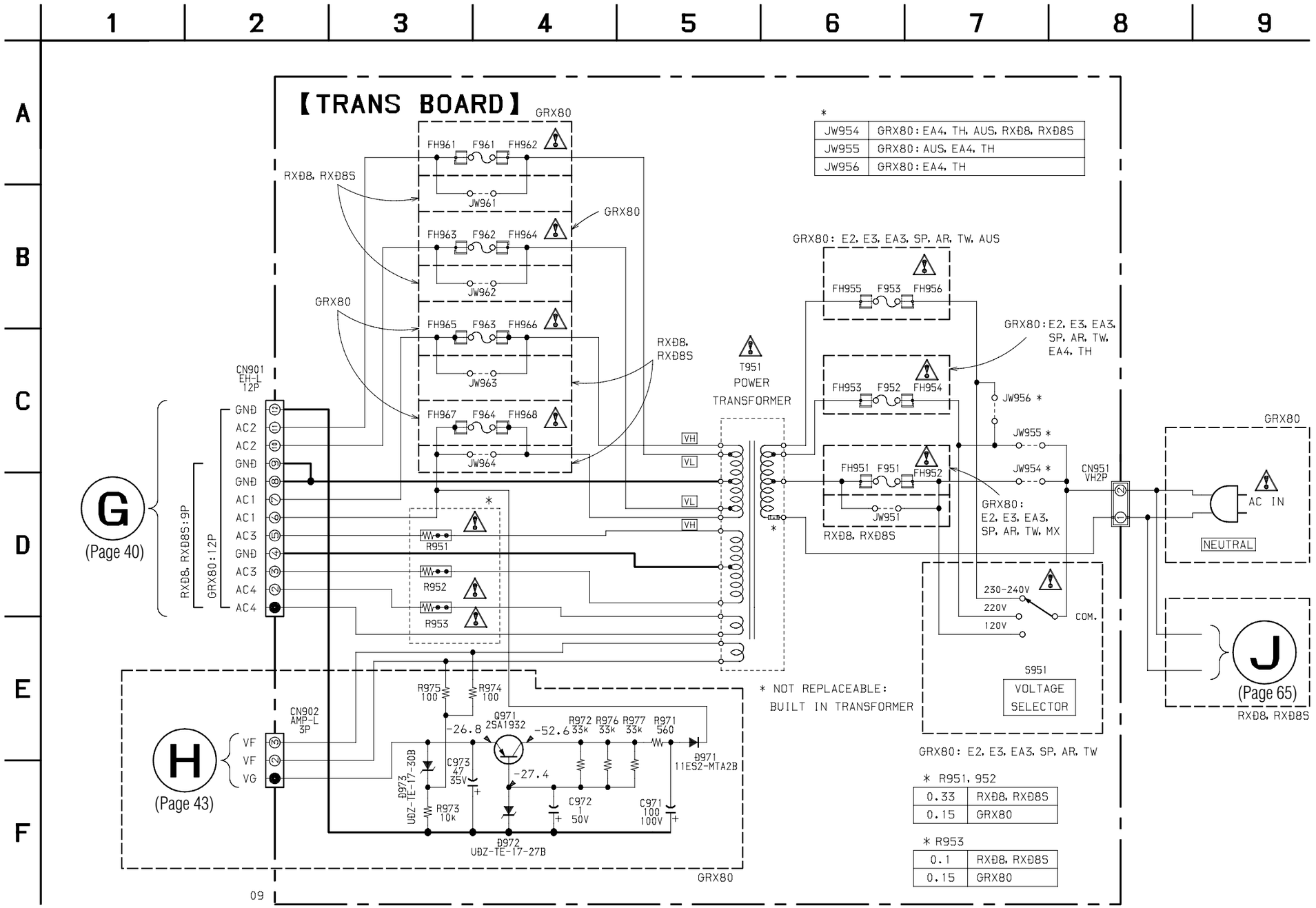






7-20. SCHEMATIC DIAGRAM – TRANS SECTION –

• See page 67 for Printed Wiring Board.



*

JW954	GRX80: EA4, TH, AUS, RXD8, RXD8S
JW955	GRX80: AUS, EA4, TH
JW956	GRX80: EA4, TH

* R951, 952

0.33	RXD8, RXD8S
0.15	GRX80

* R953

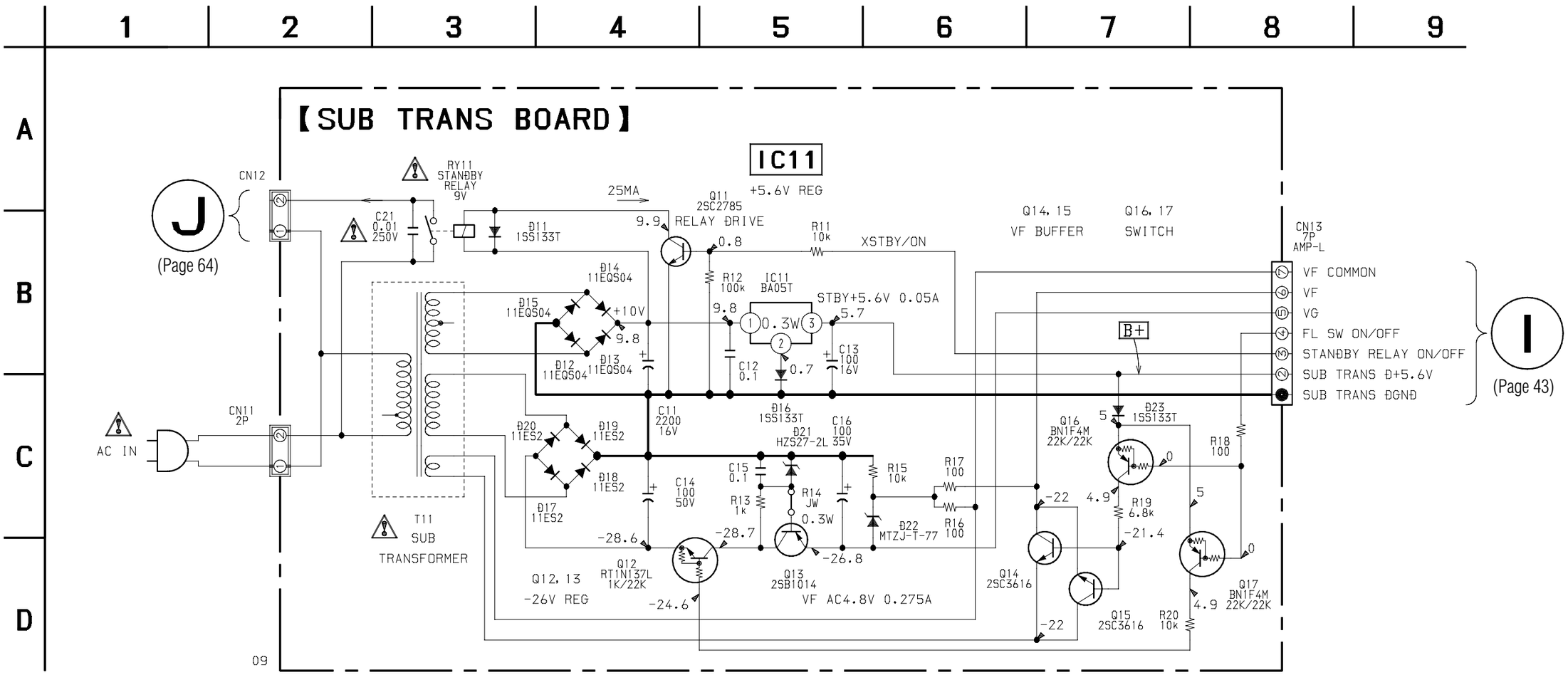
0.1	RXD8, RXD8S
0.15	GRX80

NOTE

- Voltages and waveforms are dc with respect to ground under no-signal conditions.
  no mark:FM

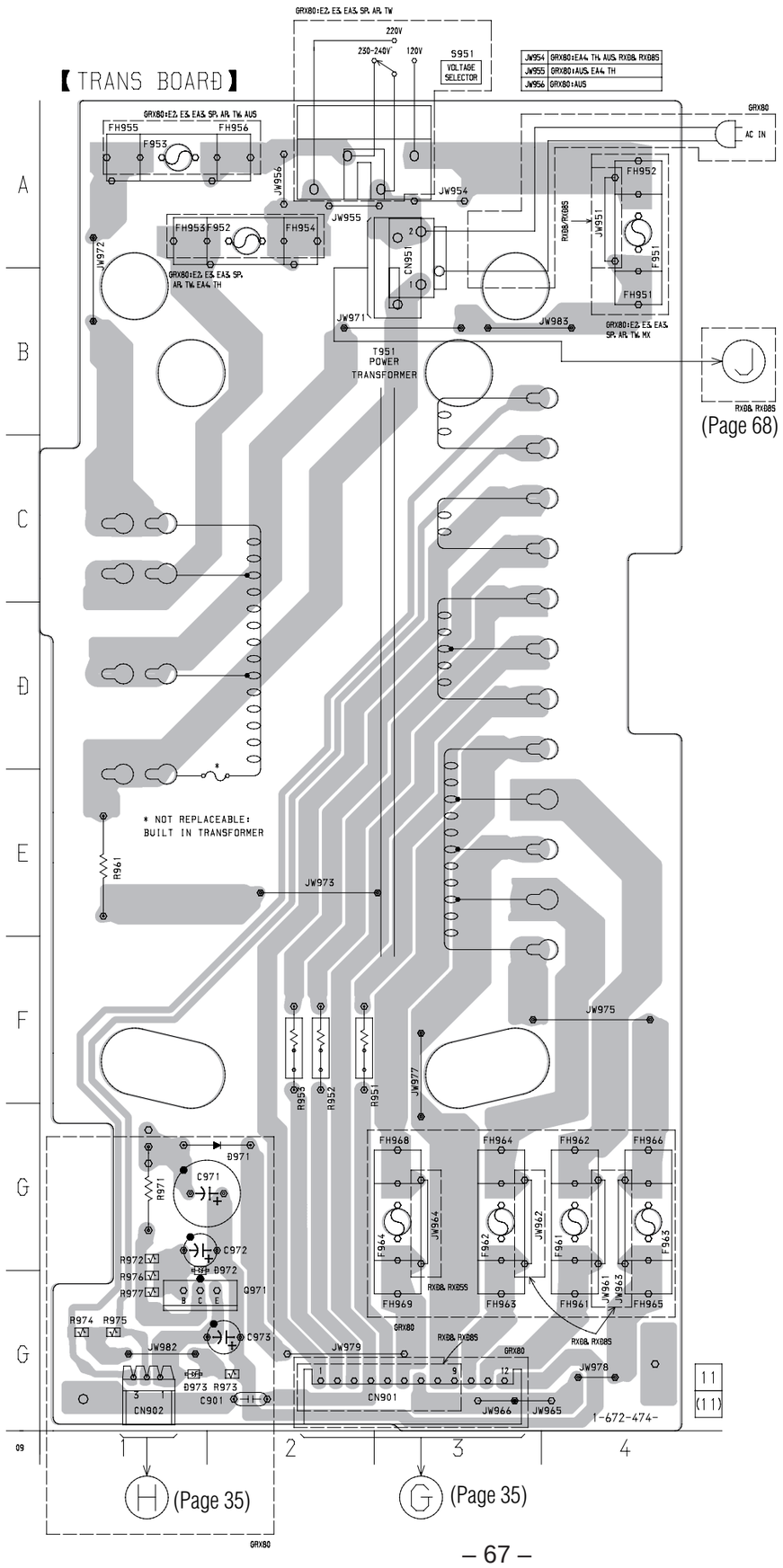
7-21. SCHEMATIC DIAGRAM – SUB TRANS SECTION – (RXD8/RD8S ONLY)

• See page 68 for Printed Wiring Board.



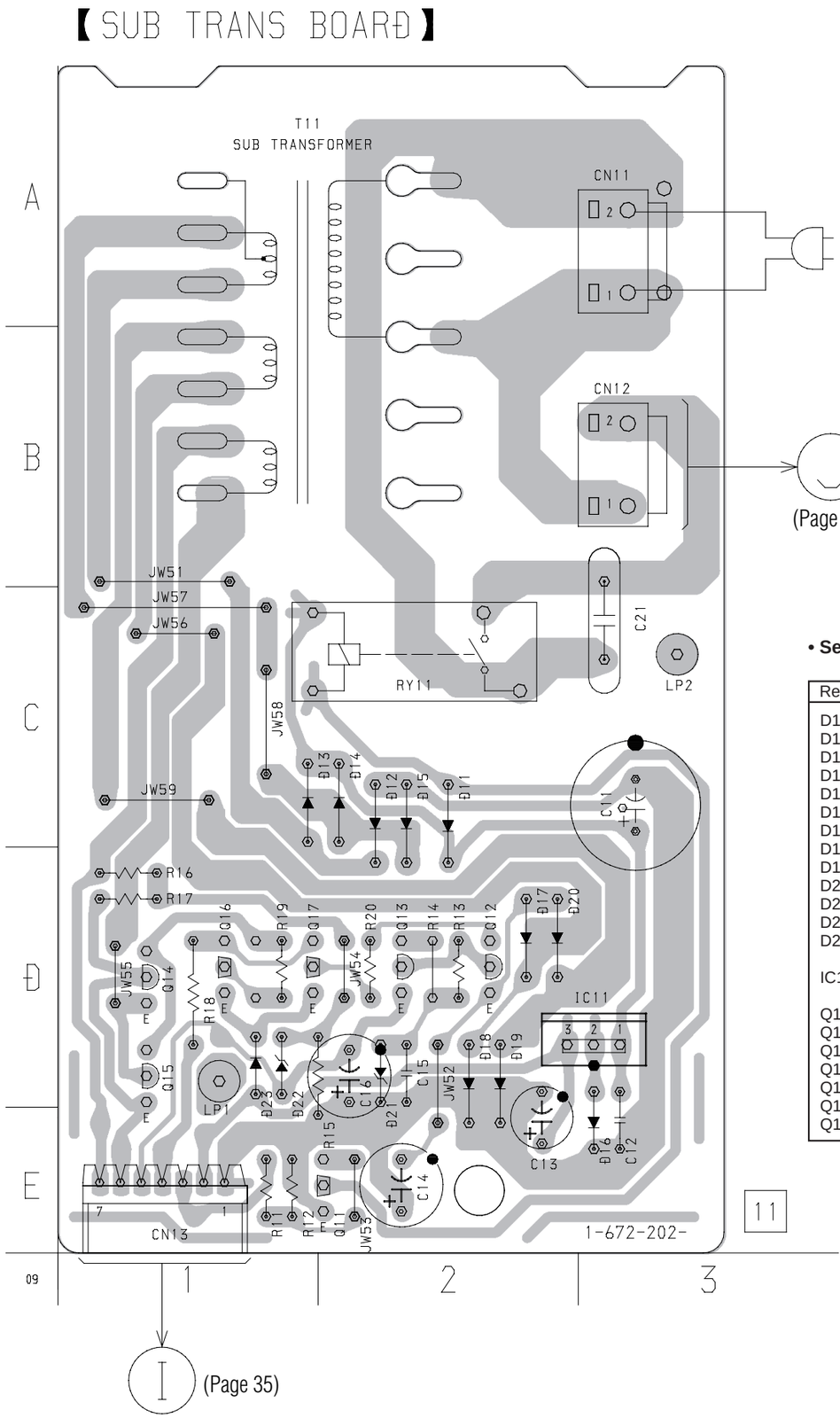
7-22. PRINTED WIRING BOARD – TRANS SECTION –

• See page 18 for Circuit Boards Location.



7-23. PRINTED WIRING BOARD – SUB TRANS SECTION – (RXD8/RXD8S ONLY)

• See page 18 for Circuit Boards Location.



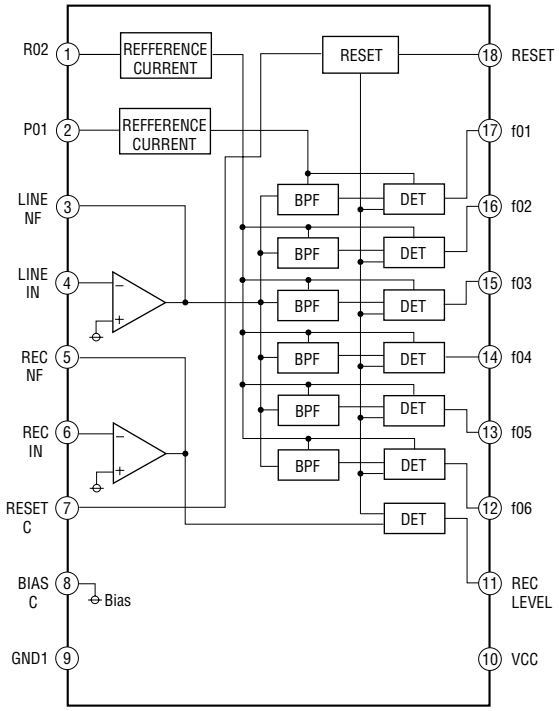
• Semiconductor Location

Ref. No.	Location
D11	C-2
D12	C-2
D13	C-2
D14	C-2
D15	C-2
D16	E-3
D17	D-2
D18	D-2
D19	D-2
D20	D-2
D21	D-2
D22	D-1
D23	D-1
IC11	D-3
Q11	D-2
Q12	D-2
Q13	D-2
Q14	D-1
Q15	D-1
Q16	D-1
Q17	D-1

7-24. IC BLOCK DIAGRAMS

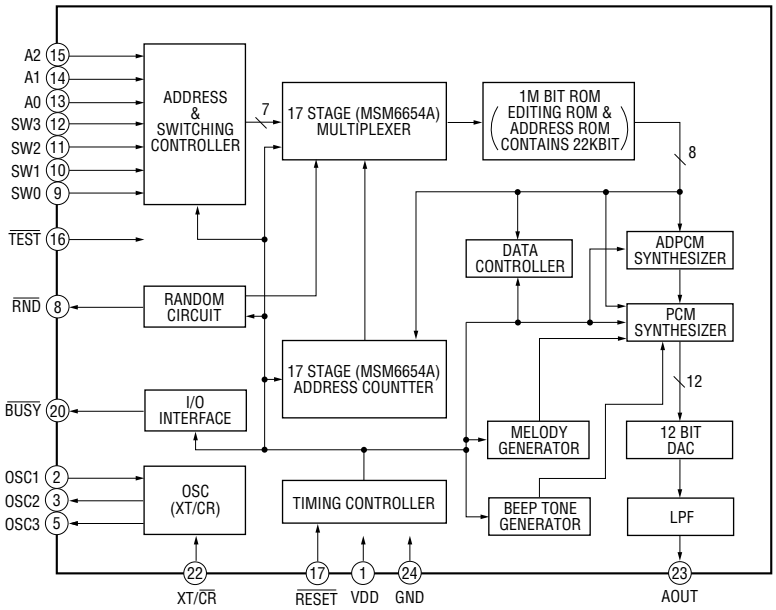
• PANEL (1/3) section

IC603 BA3830F



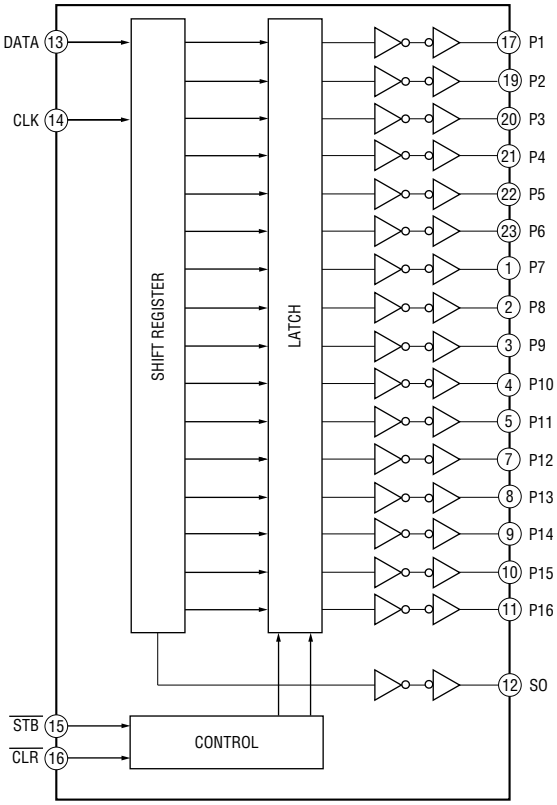
• PANEL (2/3) section

IC605 MSM6654A-540GS-K



• PANEL (3/3) section

IC604 NJU3716M



7-25. IC PIN FUNCTIONS

• IC501 MASTER CONTROL (M306622 MA-A01FP)

Pin No.	Pin Name	I/O	Function
1	STK-MUTE	O	Power amp ON/OFF signal output
2	POWER	O	Power ON/OFF signal output
3	F-RELAY	O	Front speaker relay control output
4	REAR-RELAY	O	Rear speaker relay control output (Not used)
5	CD-POWER	O	CD power on signal output
6	LINE-MUTE	O	Line mute ON/OFF selection output
7	DBFB-H/L	O	DBFB H/L select signal output
8, 9	–	–	Not used
10	XC-IN	I	X'tal (32.768MHz)
11	XC-OUT	O	
12	RESET	I	Reset signal input
13	X-OUT	O	X'tal (16MHz)
14	VSS	–	Ground
15	X-IN	I	X'tal (16MHz)
16	VCC	–	Power supply (+5V)
17	NMI	I	Not used (PULL UP EVER+5V)
18	WAKE UP	I	WAKE UP (Fixed at fixed at "L")
19	SCOR	I	Subcode data request signal output
20	RDS-INT	I	RDS data interrupt input
21	RDS-DATA	I	
22	AC-CUT	I	Back up signal input
23	PL-CLK	O	Clock signal to pro-logic (Not used)
24	PL-DATA	O	Data signal to pro-logic (Not used)
25	PL-LAT	O	Latch signal to pro-logic (Not used)
26	TIMER LED	I	Timer LED ON/OF
27	PROTECTOR	I	Speaker protect ON/OF
28	–	–	Not used
29	IIC-CLK	O	Clock output for IC601
30	IIC-DATA	O	Data output for IC601
31	–	–	Not used
32	SQ-DATA	I	Subcode Q data clock input
33	SQ-CLK	I	
34	SW-MODE	O	Not used
35	CD-DATA	O	CD data output
36	RY-SW	I	Head phone swich detect
37	CD-CLK	O	CD clock output
38	493-LAT	O	Latch signal output for M62493FP (IC101)
39	ST-BY LED/ CLOCK-OUT	O	Clock ond stand by LED signal output
40	L+R/L-R	I	Not used
41	BY-PASS	I	
42	FL-SW	I	FL switch ON/OFF
43	STBY RELAY	I	Stand by relay ON/OFF
44	BASS FREQ	O	FREQ high/low signal for SYNC bass
45, 46	–	–	Not used
47	493-DATA	O	Data output for M62493FP (IC101)
48	493-CLK	O	Clock output for M62493FP (IC101)
49	ST-MUTE	O	Tuned mute signal output

Pin No.	Pin Name	I/O	Function
50	STEREO	I	Stereo detection for tuner
51	TUNED	I	Tuned detection for tuner
52	ST-CE	O	Tuner chip enable output
53	ST-DOUT	O	Tuner data output
54	ST-DIN	I	Tuner data input
55	ST-CLK	O	Tuned clock output
56	SENS	I	BD Condition signal input
57	HDLD	O	Mode hold signal output
58	XLT	O	CD latch signal output
59	XRST	O	CD reset signal output
60	DISC-SENS	I	Slit sensor of disc table input
61	T-SENS	I	CD table detection signal input
62	VCC	–	Power supply (+5V)
63	TBL-L	O	Table motor control output
64	VSS	–	Ground
65	TBL-R	O	Table motor control output
66	LOAD-OUT	O	Loading motor control signal output
67	LOAD-IN	O	
68	ENC 3/UP-SW	I	Disc tray address detect encoder input
69	ENC 2/DISC-LED	I	
70	ENC 1	I	
71	OUT-OPEN	O	Loading out detection signal output
72	B-TRG	O	Trigger motor control output
73	A-TRG	O	
74	CAP-M-COT2	O	Capstan motor control 1(-) signal output
75	CAP-M-COT1	O	Capstan motor control 2(-) signal output
76	CAP-M-H/L	O	Capstan motor H/L speed select signal output
77	AMS-IN	I	Connected to ground
78	TC-MUTE	O	TC mute ON/OFF selection output
79	R/PB/PAS	O	REC/PB/PASS selection output
80	NR-ON/OFF	O	NR ON/OFF signal output
81	REC-MUTE	O	REC mute ON/OFF selection output
82	BIAS	O	Bias ON/OFF selection output
83	EQ-H/N	O	Equalizer H/N select output
84	PB-A/B	O	PB Deck A/Deck B select output
85	ALC	O	ALC ON/OFF output
86	B-PLAY-SW	I	Deck B play detect
87	A-PLAY-SW	I	Deck A play detect
88	A-HALF	I	Deck A cassette detect
89	B-HALF	I	Deck B cassette detect
90	B-SHUT	I	B Deck reel pulse detector
91	A-SHUT	I	A Deck reel pulse detector
92	SOFT-TEST	O	Software test port
93, 94	KEY/CD-ADJ	I	CD adjust point port
95	MODEL IN	I	Version select signal input
96	AVSS	–	Ground
97	SPEC-IN	I	Version select signal input
98	VREF	I	Analog reference voltage input
99	AVCC	–	Analog power supply
100	TC-RELAY	O	REC/PB head selection output for IC602

• **IC601 DISPLAY CONTROL (TMP88CS76F-6000)**

Pin No.	Pin Name	I/O	Function
1	SIRCS	I	Remote commander signal input
2	JOG A	I	Rotary encoder (S601) pulse input
3	L/P SCK	O	LED/PAD clock output
4	LED LA	O	LED latch output
5	L/P DAT	O	LED/PAD data output
6	PAD LA	O	PAD latch output
7	L SEL	O	LED select signal
8	JOG B	I	Rotary encoder (S601) pulse input
9	VOL A	I	Rotary encoder (S602) pulse input
10	VOL B	I	
11 to 14	KEY 0 to KEY 3	I	Key input
15	GRADATION L	O	LED gradation signal (left)
16	S LOW (F01)	O	Sptctrum analyzer input (Super low flegency) (40Hz)
17	BPF 1 (F02)	O	Sptctrum analyzer input (100Hz)
18	BPF 2	O	Sptctrum analyzer input (400Hz)
19	BPF 3	O	Sptctrum analyzer input (2KHz)
20	BPF 4	O	Sptctrum analyzer input (6KHz)
21	ALL B (L+R)	I	Sptctrum analyzer input (all band)
22	GLADATION R/WAKE UP	O	LED gradation signal (right)/WAKE UP signal
23	VSS I/O	–	Ground
24	VASS	–	Ground
25	VAref	I	Analog reference voltage input
26	VDD I/O	–	Power supply (+5V)
27 to 40	G 18 to G 5	O	FL gride signal output
41	VDD VFT	–	Power supply (+5V)
42 to 45	G 4 to G 1	O	FL gride signal output
46 to 67	S 1 to S 22	O	FL segment signal output
68	VKK	–	Power supply (-30V)
69	VDD for CPU	–	Power supply (+5V)
70	X IN	I	X’tal (12.5MHz)
71	VSS for CPU	–	Ground
72	X OUT	O	X’tal (12.5MHz)
73	RESET	I	Reset signal input from main controller
74	CH for PAD	O	Channel signal output for PAD
75	BUSY for PAD	O	Busy signal output for PAD
76	TEST	I	Connected ground
77	–	–	Not used (to ground)
78	IIC DATA	O	Data output for IC501
79	IIC CLK	O	Clock output for IC501
80	–	–	Not used (to ground)

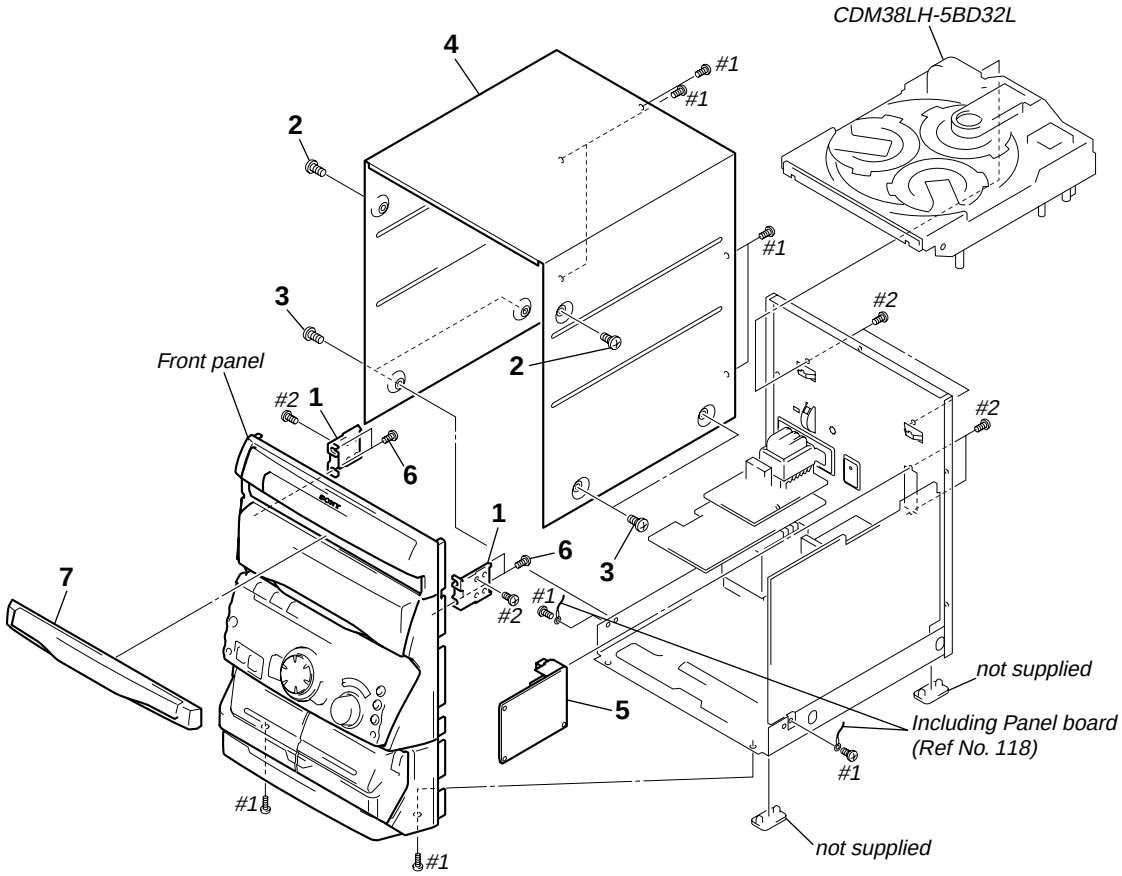
SECTION 8
EXPLODED VIEWS

NOTE:
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list and accessories and packing materials are given in the last of this parts list.
- Color Indication of Appearance Parts Example:
  KNOB, BALANCE (WHITE)
  ↑
  Cabinets color

- Abbreviation
  G : German model
  EA3 : Saudi Arabia model
  EA4 : Israel model
  MX : Mexican model
  E2 : Without SW tuner model
  E3 : With SW tuner model
  SP : Singapore model
  TW : Taiwan model
  AUS : Australian model
  AR : Argentine model
  TH : Thailand model

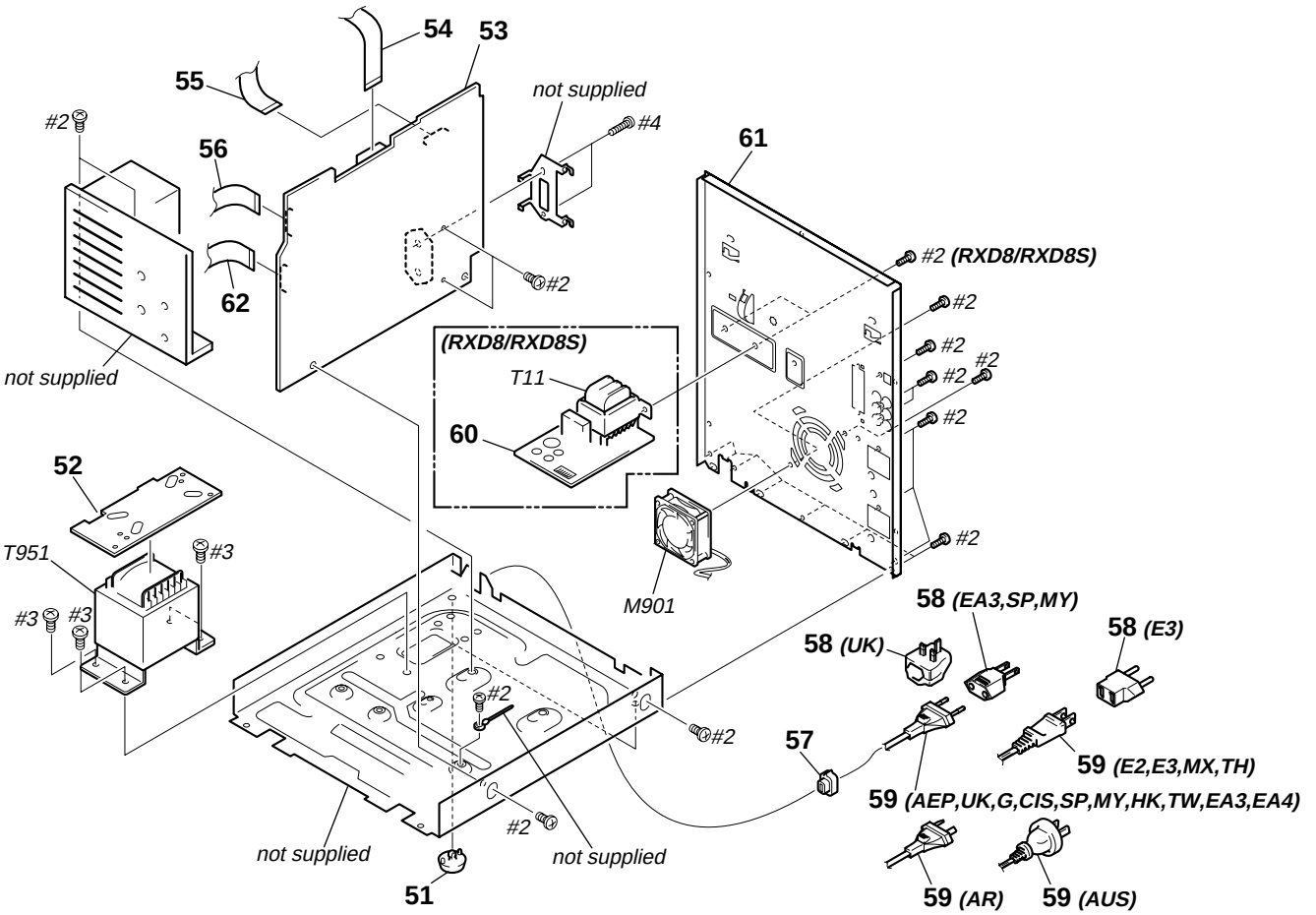
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

8-1. CASE SECTION



Ref. No.	Part No.	Description	Remark
* 1	4-996-716-01	HOLDER (CDM)	
2	3-363-099-41	SCREW (CASE 3 TP2)(GRAY)	
2	3-363-099-71	SCREW (CASE 3 TP2)(SILVER)	
3	3-363-099-01	SCREW (CASE 3 TP2)(GRAY)	
3	3-363-099-11	SCREW (CASE 3 TP2)(SILVER)	
* 4	4-214-452-01	CASE (SILVER)	
* 4	4-215-753-01	CASE (GRAY)	
5	1-233-545-11	TUNER UNIT (EA4,TH)	
5	1-233-545-14	ENCAPSULATED COMPONENT (E2,AR,MX,AUS)	
5	1-233-546-13	ENCAPSULATED COMPONENT (E3,EA3,SP,TW)	
5	1-693-443-11	TUNER UNIT (AEP,UK,G,CIS)	
6	4-951-620-01	SCREW (2.6x8), +BVTP	
7	X-4950-953-1	PANEL ASSY, LOADING (RXD8S)	
7	X-4950-978-1	PANEL ASSY, LOADING (GRX80)(SILVER)	
7	X-4950-979-1	PANEL ASSY, LOADING (GRX80)(GRAY)	
7	X-4950-981-1	PANEL ASSY, LOADING (RXD8)	

8-2. CHASSIS SECTION

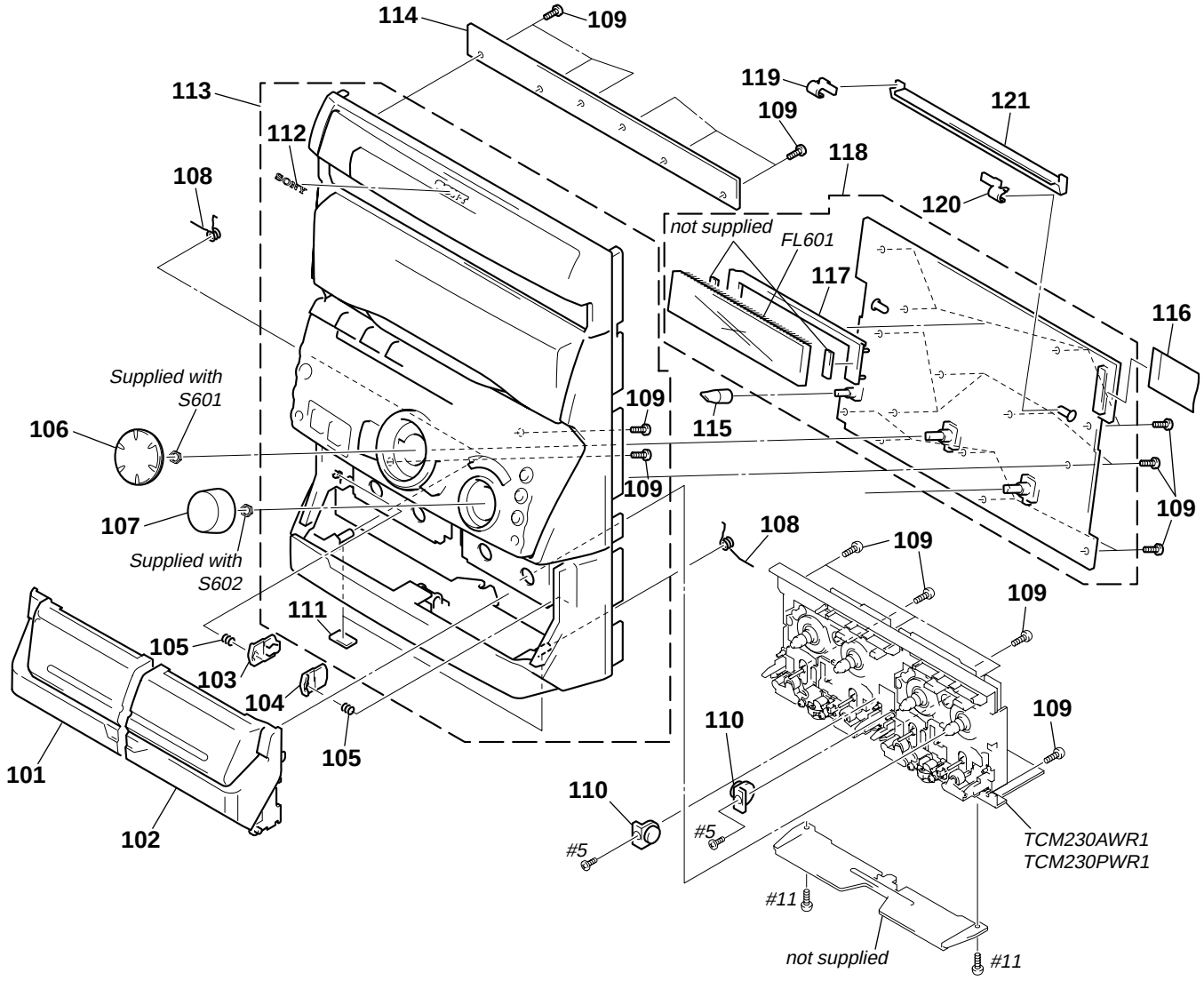


The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Ref. No.	Part No.	Description	Remark
51	4-965-822-01	FOOT	
* 52	1-672-474-11	TRANS BOARD	
* 53	A-4417-639-A	MAIN BOARD, COMPLETE (RXD8/RXD8S)	
* 53	A-4417-648-A	MAIN BOARD, COMPLETE (GRX80:EA3)	
* 53	A-4417-652-A	MAIN BOARD, COMPLETE (GRX80:E3,SP,TW)	
* 53	A-4417-668-A	MAIN BOARD, COMPLETE (GRX80:E2,AR,MX)	
* 53	A-4417-671-A	MAIN BOARD, COMPLETE (GRX80:AUS)	
* 53	A-4417-676-A	MAIN BOARD, COMPLETE (GRX80:EA4,TH)	
54	1-783-570-11	WIRE (FLAT TYPE)(19 CORE)	
55	1-769-977-11	WIRE (FLAT TYPE)(13 CORE) (GRX80:E2,E3,AR,MX,AUS,EA4,TH)	
55	1-773-009-11	WIRE (FLAT TYPE)(15 CORE) (150mm) (GRX80:EA3,SP,TW/RXD8/RXD8S)	
56	1-773-024-11	WIRE (FLAT TYPE)(15 CORE) (320mm)	
* 57	3-703-244-00	BUSHING (2104), CORD (AEP,UK,G,CIS,EA3,SP,AR,TW,AUS)	
57	3-703-571-11	BUSHING (S)(4516), CORD (E2,E3,MX,EA4,TH)	
58	1-569-007-11	ADAPTOR, CONVERSION 2P (E3)	
58	1-569-008-21	ADAPTOR, CONVERSION 2P (EA3,SP,TW)	
58	1-770-019-11	ADAPTOR, CONVERSION PLUG 3P (UK)	
⚠59	1-575-651-11	CORD, POWER (AEP,UK,G,CIS,EA3,SP,TW)	
⚠59	1-575-653-11	CORD, POWER (E2,E3,MX,TH)	
⚠59	1-690-608-11	CORD, POWER (AUS)	
⚠59	1-783-721-11	CORD, POWER (EA4)	

Ref. No.	Part No.	Description	Remark
⚠59	1-783-941-21	CORD, POWER (AR)	
* 60	A-4417-646-A	SUB TRANS BOARD, COMPLETE (RXD8/RXD8S)	
* 61	4-214-451-01	PANEL, BACK (GRX80:E2,AR) (Malaysia PRODUCT)	
* 61	4-214-451-11	PANEL, BACK (GRX80:EA3)	
* 61	4-214-451-21	PANEL, BACK (GRX80:SP)	
61	4-214-451-31	PANEL, BACK (GRX80:MX)(Indonesia PRODUCT)	
* 61	4-214-451-41	PANEL, BACK (GRX80:MX)(Malaysia PRODUCT)	
* 61	4-214-451-51	PANEL, BACK (GRX80:AUS)	
* 61	4-214-451-61	PANEL, BACK (GRX80:TW)	
* 61	4-214-451-71	PANEL, BACK (GRX80:E2)	
* 61	4-214-451-81	PANEL, BACK (GRX80:EA4,TH)	
* 61	4-214-451-91	PANEL, BACK (GRX80:E3)	
* 61	4-215-165-01	PANEL, BACK (RXD8)(Indonesia PRODUCT)	
* 61	4-215-165-21	PANEL, BACK (RXD8S)	
* 61	4-215-165-31	PANEL, BACK (RXD8)(Malaysia PRODUCT)	
* 61	4-217-515-21	PANEL, BACK (GRX80:E3)	
* 61	4-217-515-31	PANEL, BACK (GRX80:EA3)	
62	1-773-042-11	WIRE (FLAT TYPE)(17 CORE)	
M901	1-763-072-11	FAN, D.C.	
⚠T11	1-433-591-11	TRANSFORMER, POWER (RXD8/RXD8S)	
⚠T951	1-433-556-11	TRANSFORMER, POWER (GRX80)	
⚠T951	1-433-557-11	TRANSFORMER, POWER (RXD8/RXD8S)	

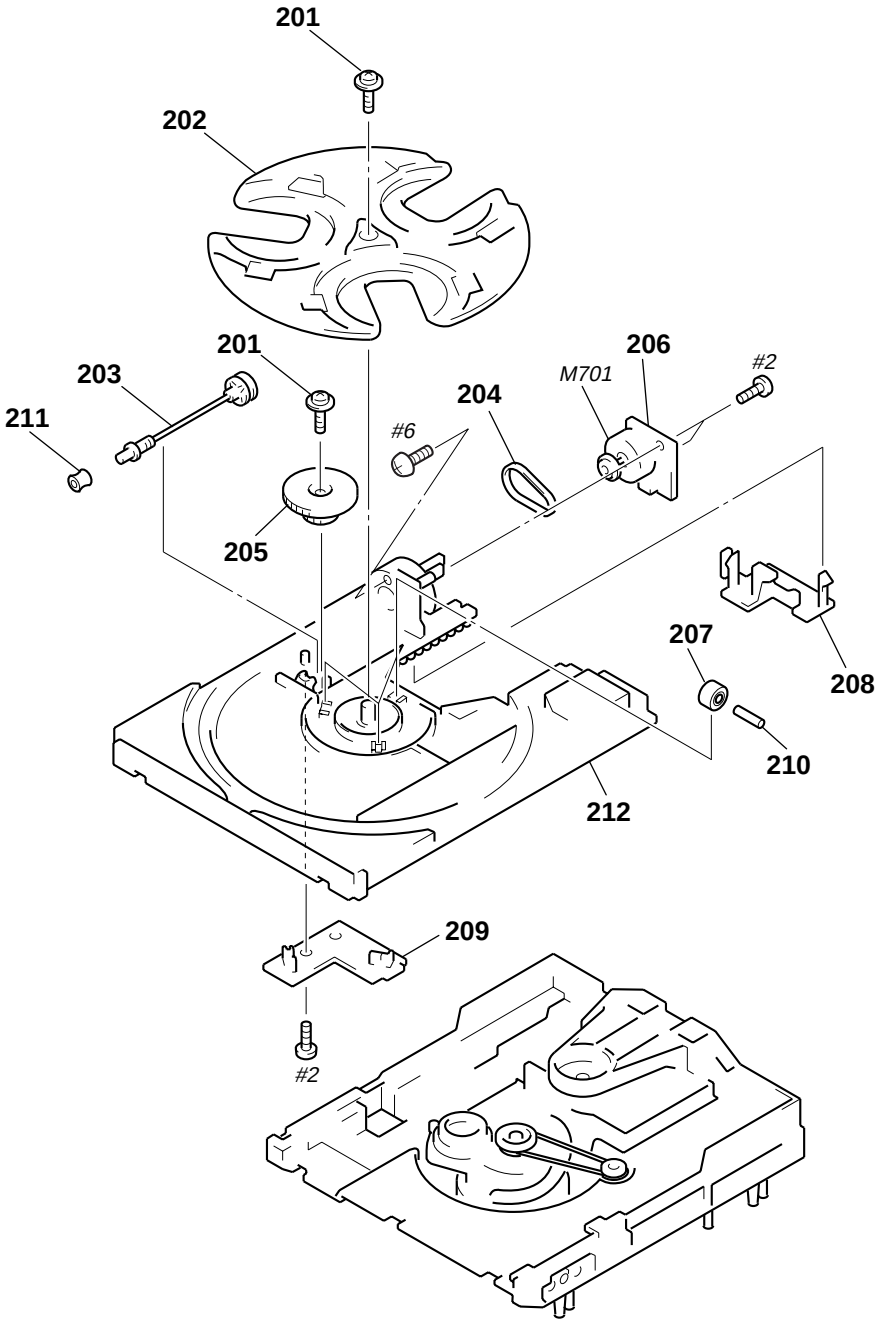
8-3. FRONT PANEL SECTION



Ref. No.	Part No.	Description	Remark
101	X-4950-697-1	HOLDER (L) ASSY, CASSETTE (SILVER)	
101	X-4950-976-1	HOLDER (L) ASSY, CASSETTE (GRAY)	
102	X-4950-698-1	HOLDER (R) ASSY, CASSETTE (SILVER)	
102	X-4950-977-1	HOLDER (R) ASSY, CASSETTE (GRAY)	
103	4-214-760-11	CATCHER (A), PUSH	
104	4-214-761-11	CATCHER (B), PUSH	
105	4-214-775-11	SPRING, PUSH CATCHER RETURN	
106	4-214-383-11	KNOB (JOG)(SILVER)	
106	4-214-383-51	KNOB (JOG)(GRAY)	
107	4-214-384-11	KNOB (VOL)(SILVER)	
107	4-214-384-51	KNOB (VOL)(GRAY)	
108	4-219-087-01	SPRING, TENSION	
109	4-951-620-01	SCREW (2.6X8), +BVTP	
110	4-210-045-02	DAMPER	
111	4-988-663-01	FOOT (FELT)	
112	4-962-708-71	EMBLEM (4-A), SONY	
113	X-4950-696-1	PANEL ASSY, FRONT (GRX80:E2,SP,AR,TW,MX,AUS,EA4,TH)(SILVER)	

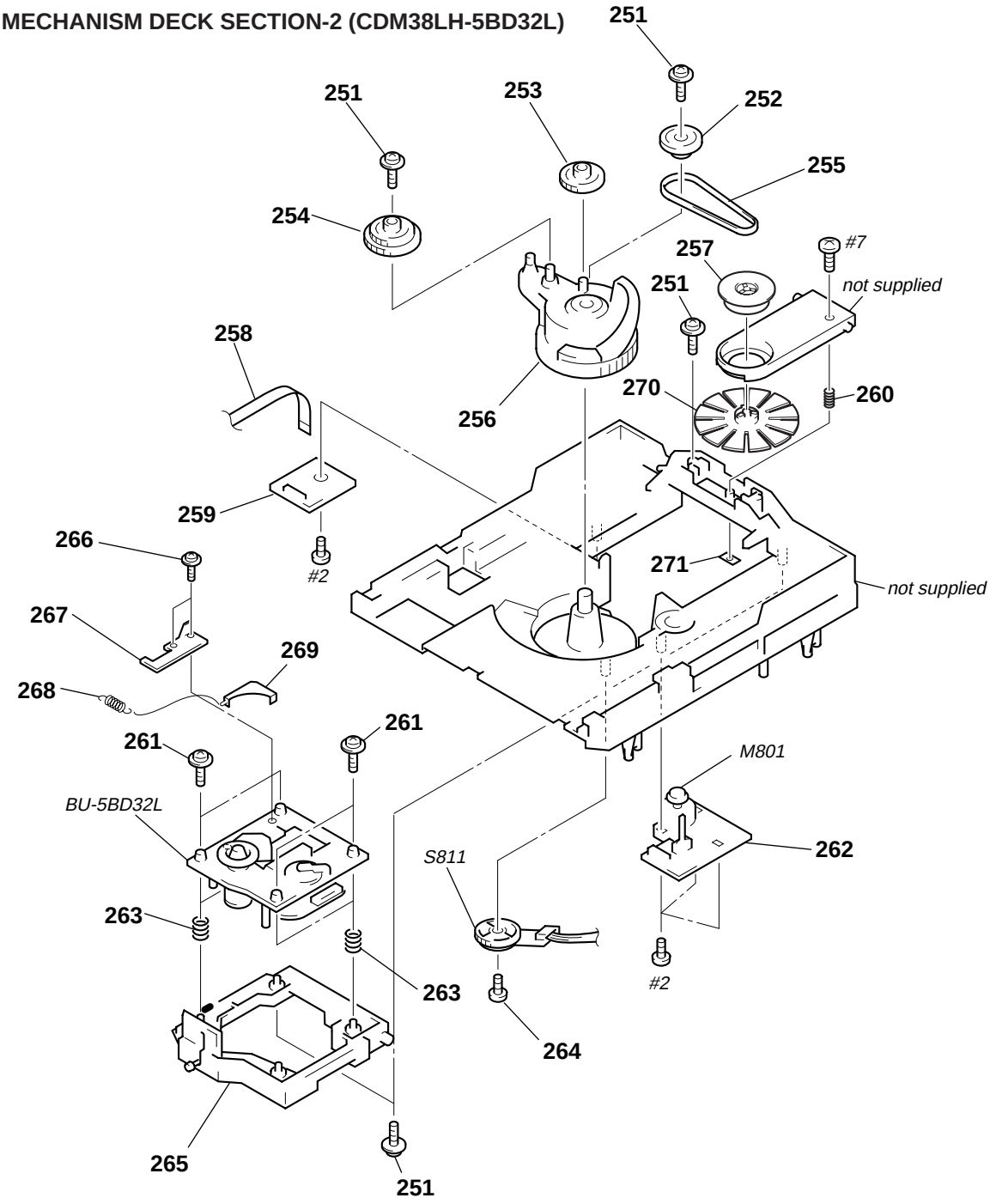
Ref. No.	Part No.	Description	Remark
113	X-4950-701-1	PANEL ASSY, FRONT (GRX80:EA3)(GRAY)	
113	X-4950-706-1	PANEL ASSY, FRONT (RXD8/RXD8S)	
113	X-4950-980-1	PANEL ASSY, FRONT (GRX80:E3)(GRAY)	
* 114	A-4417-663-A	CD SW BOARD, COMPLETE	
115	4-214-385-11	KNOB (MIC)(SILVER)	
115	4-214-385-51	KNOB (MIC)(GRAY)	
116	1-773-223-11	WIRE (FLAT TYPE)(25 CORE)	
* 117	4-214-439-11	HOLDER, FL TUBE	
* 118	A-4417-643-A	PANEL BOARD, COMPLETE (RXD8/RXD8S)	
* 118	A-4417-650-A	PANEL BOARD, COMPLETE (GRX80:EA3)	
* 118	A-4417-660-A	PANEL BOARD, COMPLETE (EXCEPT GRX80:EA3/RXD8/RXD8S)	
* 119	4-214-736-11	HOLDER (L)(LED)	
* 120	4-214-737-11	HOLDER (R)(LED)	
* 121	4-214-738-11	INDICATOR (ILLUMINATION 1)	
122	4-951-620-01	SCREW (2.6X8), +BVTP	
FL601	1-517-831-11	INDICATOR TUBE, FLUORESCENT	

8-4. CD MECHANISM DECK SECTION-1 (CDM38LH-5BD32L)



Ref. No.	Part No.	Description	Remark
201	4-981-789-01	BRACKET, YOKE	
202	4-977-945-01	TRAY (TURN)	
203	X-4946-665-1	SHAFT ASSY, WORM	
204	4-977-943-01	BELT (TURN) (1.2)	
205	4-977-956-01	WHEEL, WORM	
* 206	1-658-577-11	MOTOR (TURN) BOARD	
207	4-988-162-01	ROLLER	
208	4-977-941-01	BEARING (WORM)	
* 209	1-658-576-11	SENSOR BOARD	
210	4-934-376-01	SHAFT (ROLLER)	
211	4-981-187-01	COLLAR (WORM)	
212	4-977-944-01	TRAY (SLIDE)	
M701	A-4672-004-A	MOTOR ASSY	

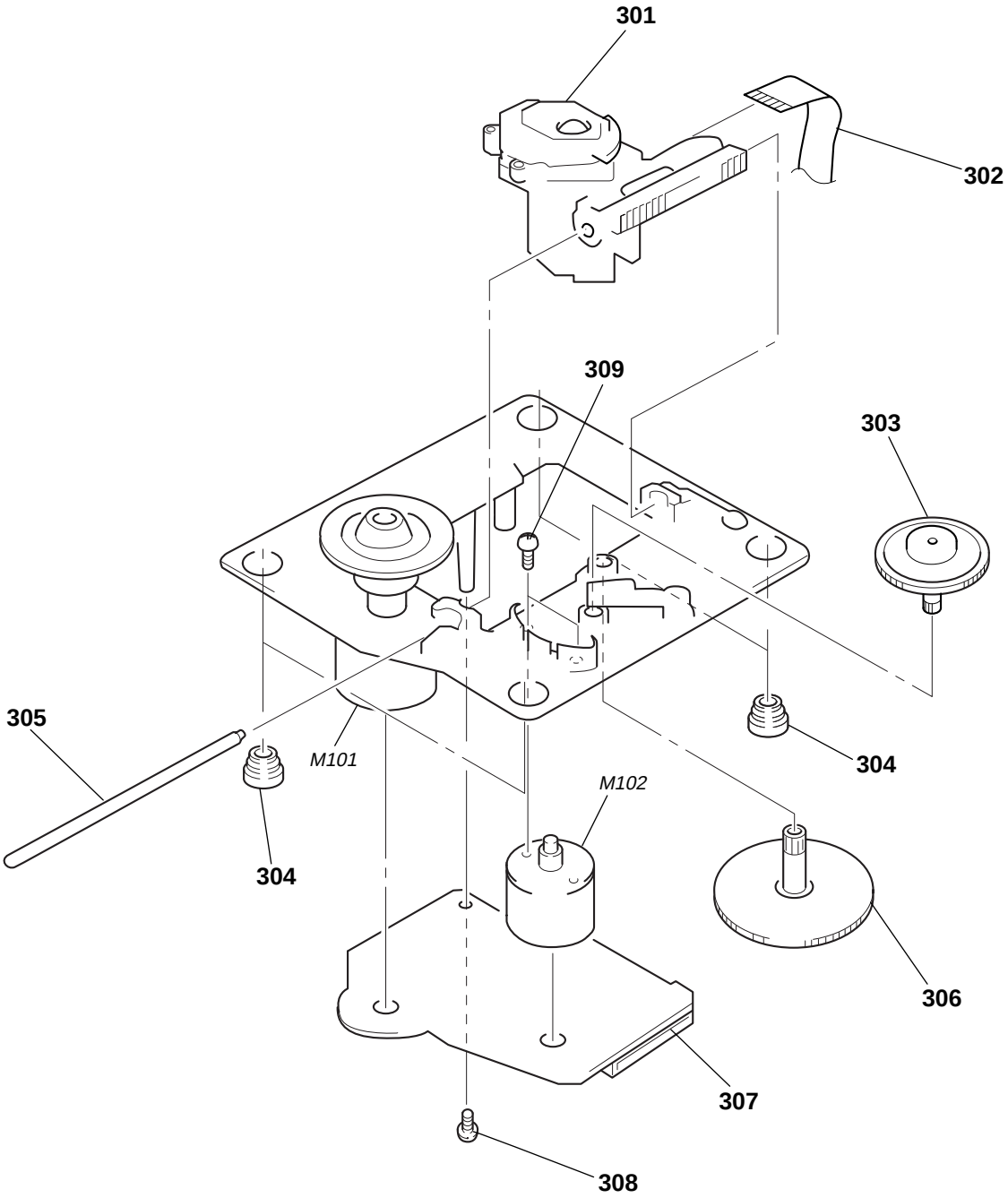
8-5. CD MECHANISM DECK SECTION-2 (CDM38LH-5BD32L)



Ref. No.	Part No.	Description	Remark
251	4-917-583-71	BRACKET, YOKE	
252	4-977-954-01	PULLEY (SL)	
253	4-977-953-01	GEAR (SL-A)	
254	4-977-955-01	GEAR (SL-B)	
255	4-977-942-01	BELT (SL) (1.4)	
256	X-4946-667-1	CAM ASSY, BU	
257	1-452-925-21	MAGNET ASSY	
258	1-776-042-11	WIRE (FLAT TYPE) (8 CORE)	
* 259	1-658-575-11	CONNECTOR BOARD	
260	4-900-743-01	SPRING, COMPRESSION	
261	4-985-672-01	SCREW (+PTPWHM2.6), FLOATING	
* 262	1-658-578-11	MOTOR (SLIDE) BOARD	

Ref. No.	Part No.	Description	Remark
263	4-982-447-01	SPRING (BU), COMPRESSION	
264	4-951-620-41	SCREW (2.6), +BVTP	
265	X-4949-570-1	HOLDER (BU) ASSY	
266	4-989-494-01	SCREW (SLIDER), STEP	
267	4-989-492-11	SLIDER (38)	
268	4-989-819-02	SPRING, TENSION	
269	4-989-491-01	COVER, LENS	
270	4-993-142-21	PULLEY (L), PRESS	
* 271	4-900-718-01	BRACKET (ADJUSTMENT)	
S811	1-473-335-11	ENCODER, ROTARY	
M801	A-4672-004-A	MOTOR ASSY (SLIDE)	

8-6. BASE UNIT SECTION (BU-5BD32L)

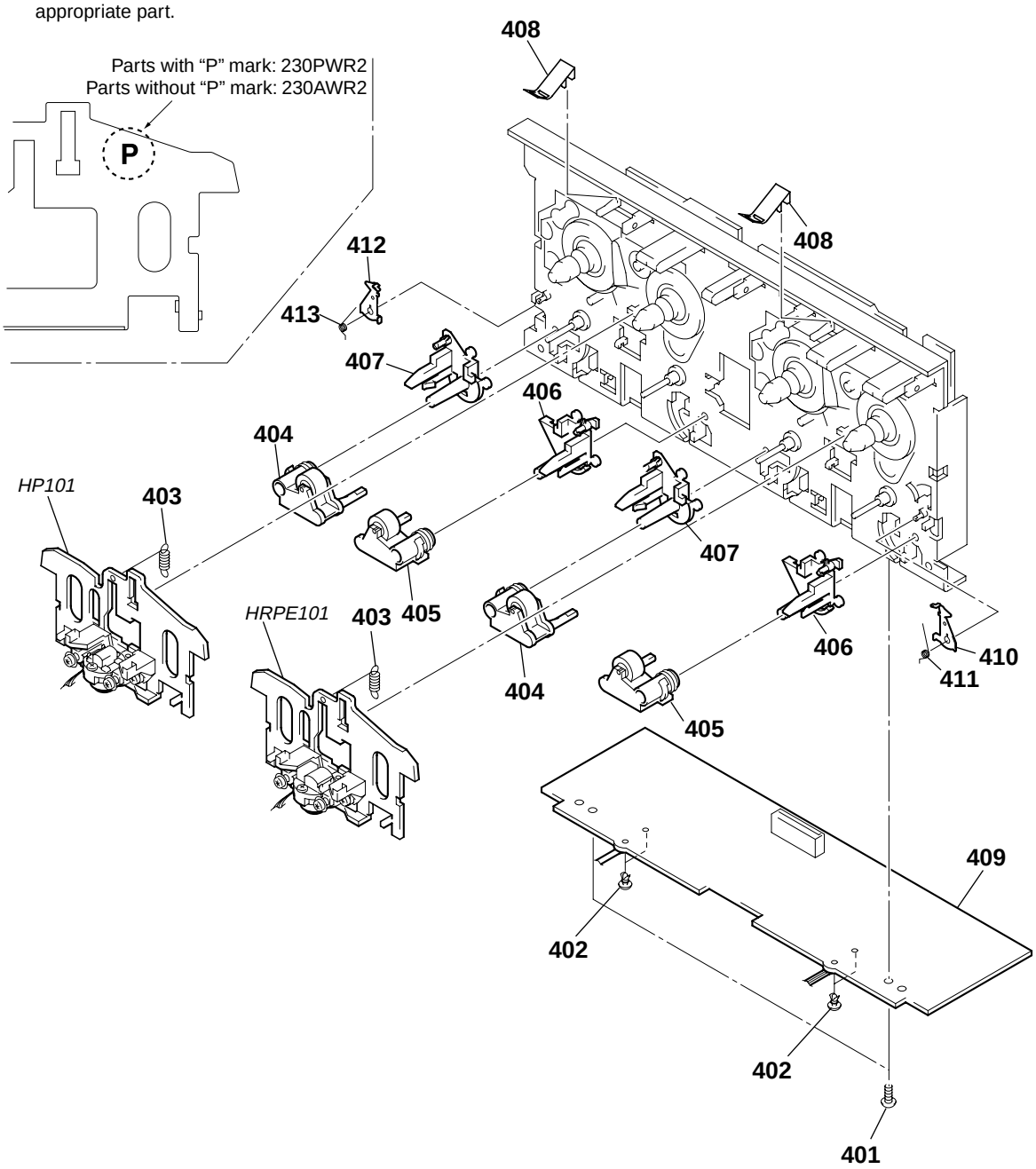


The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Ref. No.	Part No.	Description	Remark
⚠301	8-820-020-02	OPTICAL PICK-UP KSS-213D/Q-NP	
302	1-769-069-11	WIRE (FLAT TYPE) (16 CORE)	
303	4-917-567-01	GEAR (M)	
304	4-951-940-01	INSULATOR (BU)	
305	4-917-565-01	SHAFT, SLED	
306	4-917-564-01	GEAR (P), FLATNESS	
* 307	A-4724-486-A	BD BOARD, COMPLETE	
308	4-951-620-01	SCREW (2.6X8), +BVTP	
309	3-713-786-51	SCREW +P 2X3	
M101	X-4917-523-3	MOTOR ASSY (SPINDLE)	
M102	X-4917-504-1	MOTOR ASSY (SLED)	

8-7. TC MECHANISM SECTION-1 (TCM230AWR1/230PWR1)

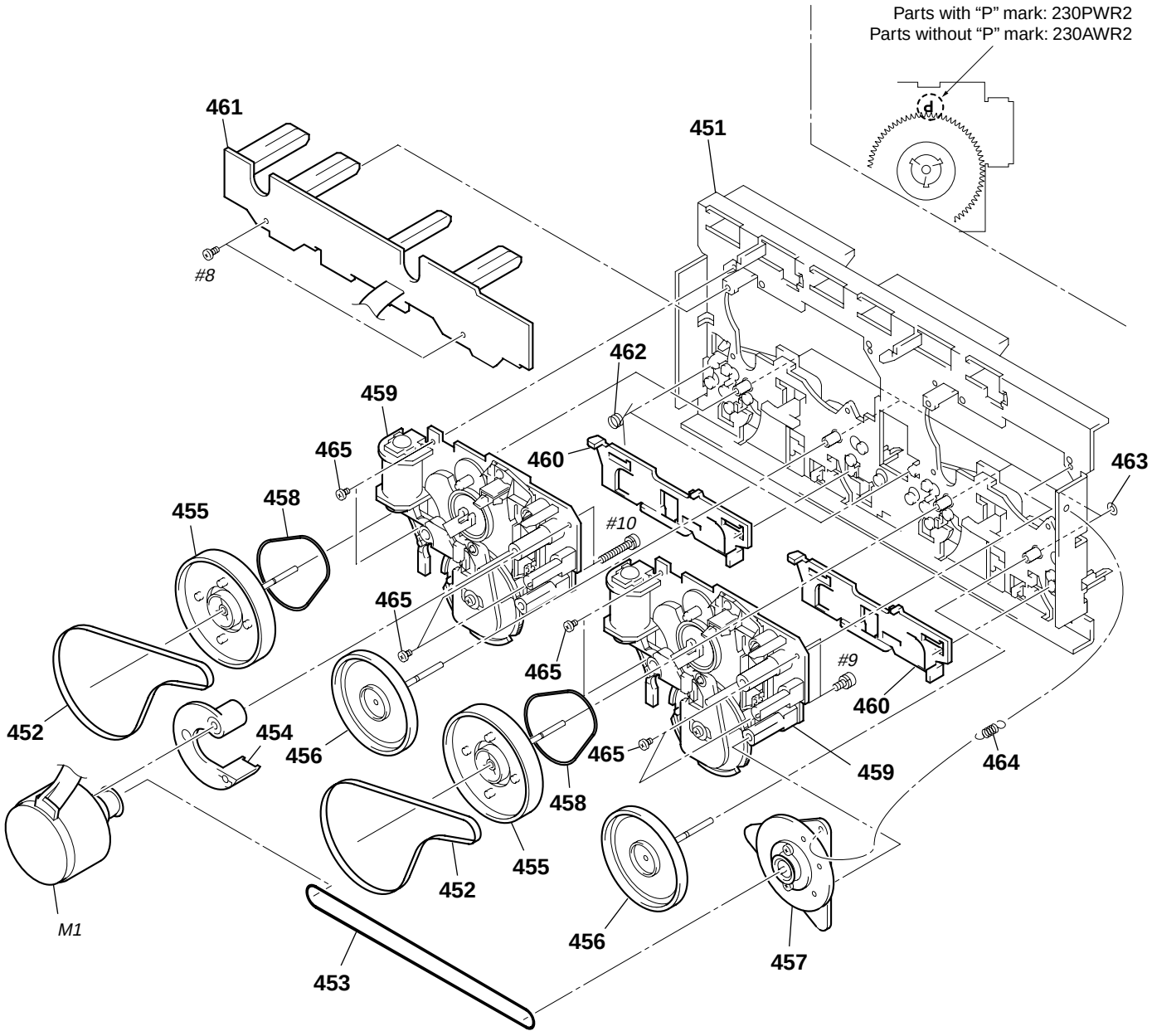
*NOTE: Two types of parts which are not interchangeable are available for the Head deck (A) ASSY and Head deck (B) ASSY. When replacing the parts, refer to the following figure, and use the appropriate part.



Ref. No.	Part No.	Description	Remark
401	3-376-464-11	SCREW(+PTT 2.6X6),GROUND POINT	
402	3-911-116-21	RIVET, PUSH	
403	3-016-574-11	SPRING (HEAD), TENSION	
404	X-3374-156-4	PINCH LEVER (REV) ASSY	
405	X-3374-155-4	PINCH LEVER (FWD) ASSY	
406	3-016-564-01	BASE (PINCH LEVER FWD)	
407	3-016-565-01	BASE (PINCH LEVER REV)	
408	3-026-892-01	SPRING (CASSETTE), LEAF	
* 409	A-2007-731-A	AUDIO BOARD, COMPLETE	
410	3-016-573-01	LEVER (EJECT PREVENTION R)	
411	3-032-810-02	SPRING (R), TORSION	
412	3-016-572-01	LEVER (EJECT PREVENTION L)	
413	3-032-809-02	SPRING (L), TORSION	
HP101	A-2056-681-A	DECK (A) ASSY, HEAD (230AWR2)(*NOTE)	
HP101	A-2056-681-B	DECK (A) ASSY, HEAD (230PWR2)(*NOTE)	
HRPE101	A-2056-682-A	DECK (B) ASSY, HEAD (230AWR2)(*NOTE)	
HRPE101	A-2056-682-B	DECK (B) ASSY, HEAD (230PWR2)(*NOTE)	

8-8. TC MECHANISM SECTION-2 (TCM230AWR1/230PWR1)

*NOTE: Two types of parts which are not interchangeable are available for the mechanical block assembly. When replacing the parts, refer to the following figure, and use the appropriate part.



Ref. No.	Part No.	Description	Remark
* 451	X-3374-214-3	CHASSIS ASSY, MAIN	
452	3-016-570-01	BELT (CAPSTAN)	
453	3-016-569-01	BELT (TENSION)	
454	3-017-360-01	BRACKET (MOTOR)	
455	X-3376-497-1	FLYWHEEL (FWD) ASSY	
456	X-3374-235-1	FLYWHEEL (REV) ASSY	
457	X-3374-238-1	PULLEY ASSY, TENSION	
458	3-024-405-01	BELT (FR2)	
459	A-2004-629-A	MECHANICAL BLOCK ASSY (230AWR2)(*NOTE)	

Ref. No.	Part No.	Description	Remark
459	A-2004-629-B	MECHANICAL BLOCK ASSY (230PWR2)(*NOTE)	
460	3-016-566-01	SLIDER, REVERSE	
* 461	A-2007-732-A	LEAF SW BOARD, COMPLETE	
462	3-016-575-11	SPRING, TORSION	
463	3-019-208-01	WASHER, STOPPER	
464	3-027-453-01	SPRING (GROUND), TENSION	
465	3-030-823-01	SCREW (+BVTT) (2X3.5)	
M1	A-2004-628-A	MOTOR ASSY, CAPSTAN	

SECTION 9
ELECTRICAL PARTS LIST

AUDIO

Note:

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

When indicating parts by reference number, please include the board name.

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- RESISTORS
  All resistors are in ohms
  METAL: Metal-film resistor
  METAL OXIDE: Metal Oxide-film resistor
  F : nonflammable
- SEMICONDUCTORS
  In each case, u: µ , for example:
  uA...: µ A..., uPA...: µ PA..., uPB...: µ PB..., uPC...: µ PC..., uPD...: µ PD...
- CAPACITORS
  uF : µ F
- COILS
  uH : µ H
- Abbreviation
  G : German model
  EA3 : Saudi Arabia model
  MX : Mexican model
  EA4 : Israel model
  E2 : Without SW tuner model
  E3 : With SW tuner model
  SP : Singapore model
  TW : Taiwan model
  AUS : Australian model
  AR : Argentine model
  TH : Thailand model

Ref. No.	Part No.	Description			Remark
*	A-2007-731-A	AUDIO BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C301	1-162-289-31	CERAMIC	390PF	10%	50V
C302	1-126-968-11	ELECT	100uF	20%	6.3V
C303	1-162-282-31	CERAMIC	100PF	10%	50V
C304	1-130-483-00	MYLAR	0.01uF	5%	50V
C305	1-107-715-11	ELECT	22uF	20%	16V
C311	1-162-289-31	CERAMIC	390PF	10%	50V
C313	1-162-282-31	CERAMIC	100PF	10%	50V
C314	1-130-487-00	MYLAR	0.022uF	5%	50V
C315	1-126-233-11	ELECT	22uF	20%	50V
C331	1-137-427-11	FILM	120PF	5%	50V
C332	1-162-288-31	CERAMIC	330PF	10%	50V
C333	1-162-209-31	CERAMIC	27PF	5%	50V
C401	1-162-289-31	CERAMIC	390PF	10%	50V
C402	1-126-968-11	ELECT	100uF	20%	6.3V
C403	1-162-282-31	CERAMIC	100PF	10%	50V
C404	1-130-483-00	MYLAR	0.01uF	5%	50V
C405	1-107-715-11	ELECT	22uF	20%	16V
C411	1-162-289-31	CERAMIC	390PF	10%	50V
C413	1-162-282-31	CERAMIC	100PF	10%	50V
C414	1-130-487-00	MYLAR	0.022uF	5%	50V
C415	1-126-233-11	ELECT	22uF	20%	50V
C431	1-137-427-11	FILM	120PF	5%	50V
C432	1-162-288-31	CERAMIC	330PF	10%	50V
C433	1-162-209-31	CERAMIC	27PF	5%	50V
C601	1-104-396-11	ELECT	10uF	20%	16V
C602	1-104-396-11	ELECT	10uF	20%	16V
C611	1-104-396-11	ELECT	10uF	20%	16V
C612	1-104-396-11	ELECT	10uF	20%	16V
C621	1-137-150-11	FILM	0.01uF	5%	100V
C622	1-126-961-11	ELECT	2.2uF	20%	50V
C623	1-136-155-00	FILM	0.015uF	5%	50V
C624	1-130-481-00	MYLAR	0.0068uF	5%	50V
C625	1-130-481-00	MYLAR	0.0068uF	5%	50V
C627	1-124-903-11	ELECT	1uF	20%	50V
C628	1-136-153-00	FILM	0.01uF	5%	50V
C642	1-104-664-11	ELECT	47uF	20%	16V
		< CONNECTOR >			
CN601	1-695-338-11	PIN, CONNECTOR (PC BOARD) 15P			

Ref. No.	Part No.	Description				Remark
		< IC >				
IC601	8-759-111-44	IC UPC4570C-1				
IC602	8-759-143-54	IC UPC1330HA				
IC611	8-759-111-44	IC UPC4570C-1				
		< COIL >				
L331	1-410-780-11	INDUCTOR	27mH			
L431	1-410-780-11	INDUCTOR	27mH			
L601	1-414-193-41	INDUCTOR	220uH			
L602	1-414-193-41	INDUCTOR	220uH			
		< TRANSISTOR >				
Q621	8-729-142-46	TRANSISTOR	2SC2001-LK			
Q622	8-729-142-46	TRANSISTOR	2SC2001-LK			
Q623	8-729-801-93	TRANSISTOR	2SD1387			
		< RESISTOR >				
R301	1-247-881-00	CARBON	120K	5%	1/4W	
R302	1-249-409-11	CARBON	220	5%	1/4W	F
R303	1-249-433-11	CARBON	22K	5%	1/4W	
R304	1-247-889-00	CARBON	270K	5%	1/4W	
R305	1-247-858-11	CARBON	13K	5%	1/4W	
R311	1-247-881-00	CARBON	120K	5%	1/4W	
R312	1-247-807-31	CARBON	100	5%	1/4W	
R314	1-247-882-11	CARBON	130K	5%	1/4W	
R315	1-247-850-11	CARBON	6.2K	5%	1/4W	
R331	1-249-430-11	CARBON	12K	5%	1/4W	
R401	1-247-881-00	CARBON	120K	5%	1/4W	
R402	1-249-409-11	CARBON	220	5%	1/4W	F
R403	1-249-433-11	CARBON	22K	5%	1/4W	
R404	1-247-889-00	CARBON	270K	5%	1/4W	
R405	1-247-858-11	CARBON	13K	5%	1/4W	
R411	1-247-881-00	CARBON	120K	5%	1/4W	
R412	1-247-807-31	CARBON	100	5%	1/4W	
R414	1-247-882-11	CARBON	130K	5%	1/4W	
R415	1-247-850-11	CARBON	6.2K	5%	1/4W	
R431	1-249-430-11	CARBON	12K	5%	1/4W	
R601	1-249-409-11	CARBON	220	5%	1/4W	F
R602	1-249-409-11	CARBON	220	5%	1/4W	F
R608	1-249-409-11	CARBON	220	5%	1/4W	F
R609	1-249-433-11	CARBON	22K	5%	1/4W	
R611	1-249-409-11	CARBON	220	5%	1/4W	F
R612	1-249-409-11	CARBON	220	5%	1/4W	F
⚠R621	1-212-851-00	FUSIBLE	5.6	5%	1/4W	F

AUDIO BD

Ref. No.	Part No.	Description			Remark
⚠R622	1-212-851-00	FUSIBLE	5.6	5%	1/4W F
R623	1-249-432-11	CARBON	18K	5%	1/4W
R624	1-249-432-11	CARBON	18K	5%	1/4W
R625	1-249-429-11	CARBON	10K	5%	1/4W
		< VARIABLE RESISTOR >			
RV301	1-238-598-11	RES, ADJ, CARBON 2.2K			
RV311	1-238-598-11	RES, ADJ, CARBON 2.2K			
RV341	1-241-768-11	RES, ADJ, CARBON 220K			
RV401	1-238-598-11	RES, ADJ, CARBON 2.2K			
RV411	1-238-598-11	RES, ADJ, CARBON 2.2K			
RV441	1-241-768-11	RES, ADJ, CARBON 220K			
		< TRANSFORMER >			
T621	1-423-980-11	TRANSFORMER, BIAS OSCILLATION			
**********					
*	A-4724-486-A	BD BOARD, COMPLETE **********			
		< CAPACITOR >			
C101	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C102	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C103	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C104	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C108	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C109	1-163-011-11	CERAMIC CHIP	0.0015uF	10%	50V
C110	1-164-182-11	CERAMIC CHIP	0.0033uF	10%	50V
C111	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C112	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C113	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C114	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C115	1-126-607-11	ELECT CHIP	47uF	20%	4V
C116	1-126-607-11	ELECT CHIP	47uF	20%	4V
C117	1-126-209-11	ELECT CHIP	100uF	20%	4V
C118	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C119	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C121	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C122	1-126-206-11	ELECT CHIP	100uF	20%	6.3V
C123	1-163-021-91	CERAMIC CHIP	0.01uF	10%	50V
C124	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C125	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C126	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C127	1-128-065-11	ELECT CHIP	68uF	20%	10V
C128	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C129	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C130	1-164-346-11	CERAMIC CHIP	1uF		16V
C131	1-124-779-00	ELECT CHIP	10uF	20%	16V
C133	1-164-346-11	CERAMIC CHIP	1uF		16V
C140	1-164-346-11	CERAMIC CHIP	1uF		16V
C141	1-164-346-11	CERAMIC CHIP	1uF		16V
C143	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C151	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C153	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C154	1-110-501-11	CERAMIC CHIP	0.33uF	10%	16V
C156	1-163-235-11	CERAMIC CHIP	22PF	5%	50V

Ref. No.	Part No.	Description			Remark
C157	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C159	1-163-019-00	CERAMIC CHIP	0.0068uF	10%	50V
C161	1-126-206-11	ELECT CHIP	100uF	20%	6.3V
C162	1-126-205-11	ELECT CHIP	47uF	20%	6.3V
C163	1-126-206-11	ELECT CHIP	100uF	20%	6.3V
C165	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C167	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C168	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C171	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C172	1-163-123-00	CERAMIC CHIP	180PF	5%	50V
C181	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C182	1-163-123-00	CERAMIC CHIP	180PF	5%	50V
		< CONNECTOR >			
CN101	1-778-874-11	CONNECTOR,FFC(LIF(NON-ZIF))19P			
CN102	1-777-937-11	CONNECTOR, FFC/FPC 16P			
		< FERRITE BEAD >			
FB101	1-500-445-21	FERRITE 0UH			
FB103	1-500-445-21	FERRITE 0UH			
		< IC >			
IC101	8-752-386-85	IC CXD2587Q			
IC102	8-759-549-28	IC BA5974FP-E			
IC103	8-752-085-51	IC CXA2568M-T			
		< TRANSISTOR >			
Q101	8-729-010-08	TRANSISTOR MSB710-R			
		< RESISTOR >			
R101	1-216-077-00	METAL CHIP	15K	5%	1/10W
R102	1-216-097-91	RES,CHIP	100K	5%	1/10W
R103	1-216-077-00	METAL CHIP	15K	5%	1/10W
R104	1-216-085-00	METAL CHIP	33K	5%	1/10W
R105	1-216-073-00	METAL CHIP	10K	5%	1/10W
R106	1-216-049-91	RES,CHIP	1K	5%	1/10W
R107	1-216-073-00	METAL CHIP	10K	5%	1/10W
R108	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R109	1-216-121-91	RES,CHIP	1M	5%	1/10W
R110	1-216-025-91	RES,CHIP	100	5%	1/10W
R111	1-216-121-91	RES,CHIP	1M	5%	1/10W
R113	1-216-121-91	RES,CHIP	1M	5%	1/10W
R114	1-216-073-00	METAL CHIP	10K	5%	1/10W
R116	1-216-001-00	METAL CHIP	10	5%	1/10W
R117	1-216-049-91	RES,CHIP	1K	5%	1/10W
R119	1-216-041-00	METAL CHIP	470	5%	1/10W
R123	1-216-073-00	METAL CHIP	10K	5%	1/10W
R124	1-216-097-91	RES,CHIP	100K	5%	1/10W
R131	1-216-033-00	METAL CHIP	220	5%	1/10W
R143	1-216-103-00	METAL CHIP	180K	5%	1/10W
R144	1-216-103-00	METAL CHIP	180K	5%	1/10W
R147	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R148	1-216-001-00	METAL CHIP	10	5%	1/10W
R149	1-216-001-00	METAL CHIP	10	5%	1/10W
R158	1-216-111-00	METAL CHIP	390K	5%	1/10W
R159	1-216-101-00	METAL CHIP	150K	5%	1/10W

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Ref. No.	Part No.	Description			Remark
R161	1-216-308-00	METAL CHIP	4.7	5%	1/10W
R162	1-216-101-00	METAL CHIP	150K	5%	1/10W
R171	1-216-078-00	RES,CHIP	16K	5%	1/10W
R172	1-216-073-00	METAL CHIP	10K	5%	1/10W
R173	1-216-077-00	METAL CHIP	15K	5%	1/10W
R181	1-216-078-00	RES,CHIP	16K	5%	1/10W
R182	1-216-073-00	METAL CHIP	10K	5%	1/10W
R183	1-216-077-00	METAL CHIP	15K	5%	1/10W
		< NETWORK >			
RN101	1-233-576-11	RES, CHIP NETWORK 100			
RN102	1-233-576-11	RES, CHIP NETWORK 100			
		< SWITCH >			
S101	1-572-085-11	SWITCH, LEAF (LIMIT IN SW)			
		< VIBRATOR >			
X101	1-767-408-21	VIBRATOR, CRYSTAL (16.9344MHz)			
**********					
*	A-4417-663-A	CD SW BOARD, COMPLETE			
		**********			
		< DIODE >			
D801	8-719-056-13	DIODE SML79423C-TP15 (DISC 1, DISC IN/PLAY)			
D802	8-719-056-13	DIODE SML79423C-TP15 (DISC 2, DISC IN/PLAY)			
D803	8-719-056-13	DIODE SML79423C-TP15 (DISC 3, DISC IN/PLAY)			
D804	8-719-063-93	DIODE SLR325VC-N-T32 ((STANDBY) POWER SAVE/DEMO)			
		< RESISTOR >			
R801	1-216-049-91	RES,CHIP	1K	5%	1/10W
R802	1-216-051-00	METAL CHIP	1.2K	5%	1/10W
R803	1-216-055-00	METAL CHIP	1.8K	5%	1/10W
R804	1-216-059-00	METAL CHIP	2.7K	5%	1/10W
R805	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R806	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R807	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R808	1-216-022-00	METAL CHIP	75	5%	1/10W
R809	1-216-029-00	METAL CHIP	150	5%	1/10W
R810	1-216-022-00	METAL CHIP	75	5%	1/10W
R811	1-216-029-00	METAL CHIP	150	5%	1/10W
R812	1-216-022-00	METAL CHIP	75	5%	1/10W
R813	1-216-029-00	METAL CHIP	150	5%	1/10W
R814	1-216-043-91	RES,CHIP	560	5%	1/10W
		< SWITCH >			
S801	1-762-875-21	SWITCH, KEYBOARD (I/⏻)			
S802	1-762-875-21	SWITCH, KEYBOARD ((STANDBY) POWER SAVE/DEMO)			
S803	1-762-875-21	SWITCH, KEYBOARD (DISC 1)			
S804	1-762-875-21	SWITCH, KEYBOARD (DISC 2)			
S805	1-762-875-21	SWITCH, KEYBOARD (DISC 3)			
S806	1-762-875-21	SWITCH, KEYBOARD (DISC SKIP/EX-CHANGE)			
S807	1-762-875-21	SWITCH, KEYBOARD (⏏)			
**********					
*	1-658-575-11	CONNECTOR BOARD			
		**********			
		< CONNECTOR >			
* CN701	1-568-946-11	PIN, CONNECTOR 8P			
CN702	1-750-413-11	CONNECTOR, FFC/FPC 8P			
		< TRANSISTOR >			
Q701	8-729-900-80	TRANSISTOR DTC114ES			
		< RESISTOR >			
R703	1-249-435-11	CARBON	33K	5%	1/4W
R704	1-249-429-11	CARBON	10K	5%	1/4W
R705	1-249-417-11	CARBON	1K	5%	1/4W F
**********					
*	A-2007-732-A	LEAF SW BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C1001	1-107-716-11	ELECT	33uF	20%	10V
		< CONNECTOR >			
CN1001	1-568-860-11	SOCKET, CONNECTOR 17P			
CN1001	1-784-459-11	CONNECTOR, FFC/FPC 17P			
		< DIODE >			
D1001	8-719-911-19	DIODE 1SS119			
D1002	8-719-911-19	DIODE 1SS119			
		< HOLDER >			
* DM1001	1-784-581-11	HOLDER, CABLE (2.5MM PITCH) 4P			
		< IC >			
IC1001	8-749-014-38	IC PHOTO INTERRUPTER SG-264			
IC1002	8-749-014-38	IC PHOTO INTERRUPTER SG-264			
		< TRANSISTOR >			
Q1001	8-729-029-56	TRANSISTOR DTA144ESA			
		< RESISTOR >			
R907	1-247-879-11	CARBON	100K	5%	1/4W
R1001	1-249-409-11	CARBON	220	5%	1/4W F
R1002	1-249-409-11	CARBON	220	5%	1/4W F
R1003	1-249-414-11	CARBON	560	5%	1/4W F
R1004	1-247-834-11	CARBON	1.3K	5%	1/4W
R1005	1-247-818-11	CARBON	300	5%	1/4W
R1006	1-247-864-11	CARBON	24K	5%	1/4W
R1007	1-247-856-00	CARBON	11K	5%	1/4W
R1008	1-249-417-11	CARBON	1K	5%	1/4W F

LEAF SW | MAIN

Ref. No.	Part No.	Description	Remark
		< VARIABLE RESISTOR >	
RV1001	1-241-785-11	RES, ADJ, CARBON 10K	
RV1002	1-241-785-11	RES, ADJ, CARBON 10K	
		< SWITCH >	
S1001	1-570-953-11	SWITCH, PUSH (1 KEY)(A PLAY)	
S1002	1-570-953-11	SWITCH, PUSH (1 KEY)(B PLAY)	
S1003	1-771-333-11	SWITCH, LEAF (A HALF)	
S1004	1-771-205-11	SWITCH, LEAF (A 120/70)	
S1005	1-771-205-11	SWITCH, LEAF (REC A)	
S1006	1-771-333-11	SWITCH, LEAF (B HALF)	
S1008	1-771-205-11	SWITCH, LEAF (B 120/70)	
S1009	1-771-205-11	SWITCH, LEAF (REC B)	
**********			
*	A-4417-639-A	MAIN BOARD, COMPLETE (RXD8/RXD8S) **********	
*	A-4417-648-A	MAIN BOARD, COMPLETE (GRX80:EA3) **********	
*	A-4417-652-A	MAIN BOARD, COMPLETE (GRX80:E3,SP,TW) **********	
*	A-4417-668-A	MAIN BOARD, COMPLETE (GRX80:E2,AR,MX) **********	
*	A-4417-671-A	MAIN BOARD, COMPLETE (GRX80:AUS) **********	
*	A-4417-676-A	MAIN BOARD, COMPLETE (GRX80:EA4,TH) **********	
	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S	
		< CAPACITOR >	

C101	1-162-286-31	CERAMIC	220PF	10%	50V (RXD8/RXD8S)
C102	1-162-286-31	CERAMIC	220PF	10%	50V (RXD8/RXD8S)
C103	1-162-286-31	CERAMIC	220PF	10%	50V (RXD8/RXD8S)
C104	1-164-159-11	CERAMIC	0.1uF		50V
C111	1-137-195-11	FILM	0.56uF	5%	50V
C112	1-136-158-00	FILM	0.027uF	5%	50V
C113	1-136-167-00	FILM	0.15uF	5%	50V
C114	1-130-480-00	MYLAR	0.0056uF	5%	50V
C115	1-136-159-00	FILM	0.033uF	5%	50V
C116	1-130-473-00	MYLAR	0.0015uF	5%	50V
C117	1-136-153-00	FILM	0.01uF	5%	50V
C118	1-162-288-31	CERAMIC	330PF	10%	50V
C119	1-130-479-00	MYLAR	0.0047uF	5%	50V
C120	1-130-477-00	MYLAR	0.0033uF	5%	50V
C121	1-126-964-11	ELECT	10uF	20%	50V
C122	1-162-291-31	CERAMIC	560PF	10%	50V
C123	1-136-169-00	FILM	0.22uF	5%	50V
C124	1-136-169-00	FILM	0.22uF	5%	50V
C125	1-126-964-11	ELECT	10uF	20%	50V
C131	1-104-664-11	ELECT	47uF	20%	16V
C132	1-104-664-11	ELECT	47uF	20%	16V
C135	1-126-964-11	ELECT	10uF	20%	50V
C141	1-126-959-11	ELECT	0.47uF	20%	50V
C151	1-162-286-31	CERAMIC	220PF	10%	50V (RXD8/RXD8S)
C152	1-162-286-31	CERAMIC	220PF	10%	50V (RXD8/RXD8S)
C153	1-162-286-31	CERAMIC	220PF	10%	50V (RXD8/RXD8S)
C161	1-137-195-11	FILM	0.56uF	5%	50V
C162	1-136-158-00	FILM	0.027uF	5%	50V
C163	1-136-167-00	FILM	0.15uF	5%	50V
C164	1-130-480-00	MYLAR	0.0056uF	5%	50V
C165	1-136-159-00	FILM	0.033uF	5%	50V
C166	1-130-473-00	MYLAR	0.0015uF	5%	50V
C167	1-136-153-00	FILM	0.01uF	5%	50V
C168	1-162-288-31	CERAMIC	330PF	10%	50V
C169	1-130-479-00	MYLAR	0.0047uF	5%	50V
C170	1-130-477-00	MYLAR	0.0033uF	5%	50V
C171	1-126-964-11	ELECT	10uF	20%	50V
C172	1-162-291-31	CERAMIC	560PF	10%	50V
C173	1-136-169-00	FILM	0.22uF	5%	50V
C174	1-136-169-00	FILM	0.22uF	5%	50V
C175	1-126-964-11	ELECT	10uF	20%	50V
C176	1-136-495-11	FILM	0.068uF	5%	50V
C177	1-136-153-00	FILM	0.01uF	5%	50V
C181	1-161-494-00	CERAMIC	0.022uF		25V
C182	1-161-494-00	CERAMIC	0.022uF		25V
C183	1-126-964-11	ELECT	10uF	20%	50V
C184	1-126-964-11	ELECT	10uF	20%	50V
C193	1-126-964-11	ELECT	10uF	20%	50V (GRX80)
C197	1-164-159-11	CERAMIC	0.1uF		50V
C301	1-126-960-11	ELECT	1uF	20%	50V
C302	1-130-479-00	MYLAR	0.0047uF	5%	50V
C303	1-136-165-00	FILM	0.1uF	5%	50V
C304	1-136-165-00	FILM	0.1uF	5%	50V
C305	1-126-964-11	ELECT	10uF	20%	50V
C306	1-126-960-11	ELECT	1uF	20%	50V
C307	1-126-959-11	ELECT	0.47uF	20%	50V
C308	1-126-964-11	ELECT	10uF	20%	50V
C309	1-137-194-81	FILM	0.47uF	5%	50V
C310	1-162-290-31	CERAMIC	470PF	10%	50V
C311	1-126-964-11	ELECT	10uF	20%	50V
C312	1-126-959-11	ELECT	0.47uF	20%	50V
C313	1-162-294-31	CERAMIC	0.001uF	10%	50V
C314	1-126-964-11	ELECT	10uF	20%	50V
C315	1-126-963-11	ELECT	4.7uF	20%	50V
C316	1-104-665-11	ELECT	100uF	20%	10V
C317	1-104-665-11	ELECT	100uF	20%	10V
C320	1-162-290-31	CERAMIC	470PF	10%	50V
C333	1-162-600-11	CERAMIC	0.0047uF	30%	16V
C334	1-162-600-11	CERAMIC	0.0047uF	30%	16V
C351	1-126-960-11	ELECT	1uF	20%	50V
C352	1-130-479-00	MYLAR	0.0047uF	5%	50V
C353	1-136-165-00	FILM	0.1uF	5%	50V
C354	1-136-165-00	FILM	0.1uF	5%	50V
C355	1-126-964-11	ELECT	10uF	20%	50V

Ref. No.	Part No.	Description			Remark
C356	1-126-960-11	ELECT	1uF	20%	50V
C357	1-126-959-11	ELECT	0.47uF	20%	50V
C358	1-126-964-11	ELECT	10uF	20%	50V
C359	1-137-194-81	FILM	0.47uF	5%	50V
C382	1-104-665-11	ELECT	100uF	20%	10V
C390	1-126-935-11	ELECT	470uF	20%	6.3V
C391	1-161-494-00	CERAMIC	0.022uF		25V
C392	1-126-916-11	ELECT	1000uF	20%	6.3V
C393	1-161-494-00	CERAMIC	0.022uF		25V
C394	1-126-925-11	ELECT	470uF	20%	10V
C396	1-126-961-11	ELECT	2.2uF	20%	50V
C397	1-126-961-11	ELECT	2.2uF	20%	50V
C401	1-136-165-00	FILM	0.1uF	5%	50V (RXD8/RXD8S)
C402	1-136-165-00	FILM	0.1uF	5%	50V (RXD8/RXD8S)
C403	1-162-306-11	CERAMIC	0.01uF	20%	16V (RXD8/RXD8S)
C404	1-162-306-11	CERAMIC	0.01uF	20%	16V (RXD8/RXD8S)
C410	1-126-963-11	ELECT	4.7uF	20%	50V
C411	1-162-306-11	CERAMIC	0.01uF	20%	16V
C412	1-107-717-11	ELECT	47uF	20%	50V
C432	1-104-665-11	ELECT	100uF	20%	10V
C433	1-126-961-11	ELECT	2.2uF	20%	50V
C437	1-126-968-11	ELECT	100uF	20%	50V
C451	1-136-165-00	FILM	0.1uF	5%	50V (RXD8/RXD8S)
C452	1-136-165-00	FILM	0.1uF	5%	50V (RXD8/RXD8S)
C453	1-162-306-11	CERAMIC	0.01uF	20%	16V (RXD8/RXD8S)
C454	1-162-306-11	CERAMIC	0.01uF	20%	16V (RXD8/RXD8S)
C501	1-126-964-11	ELECT	10uF	20%	50V
C502	1-164-159-11	CERAMIC	0.1uF		50V
C503	1-136-165-00	FILM	0.1uF	5%	50V
C504	1-126-926-11	ELECT	1000uF	20%	10V
C508	1-109-889-11	ELECT	1uF	20%	50V
C610	1-102-953-00	CERAMIC	18PF	5%	50V
C611	1-102-951-00	CERAMIC	15PF	5%	50V
C614	1-162-306-11	CERAMIC	0.01uF	20%	16V
C616	1-104-665-11	ELECT	100uF	20%	10V
C662	1-162-306-11	CERAMIC	0.01uF	20%	16V
C664	1-104-665-11	ELECT	100uF	20%	10V
C698	1-162-306-11	CERAMIC	0.01uF	20%	16V
C699	1-104-665-11	ELECT	100uF	20%	10V
C801	1-126-963-11	ELECT	4.7uF	20%	50V
C802	1-162-290-31	CERAMIC	470PF	10%	50V
C803	1-162-282-31	CERAMIC	100PF	10%	50V
C804	1-104-665-11	ELECT	100uF	20%	10V
C807	1-136-495-11	FILM	0.068uF	5%	50V
C808	1-136-495-11	FILM	0.068uF	5%	50V
C809	1-128-560-11	ELECT	22uF	20%	100V
C810	1-128-578-11	ELECT	1uF	20%	100V
C811	1-162-306-11	CERAMIC	0.01uF	20%	16V
C812	1-162-306-11	CERAMIC	0.01uF	20%	16V
C841	1-127-811-11	ELECT	3300uF	20%	50V (GRX80)
C842	1-127-752-11	ELECT	3300uF	20%	63V (RXD8/RXD8S)
C842	1-127-814-11	ELECT	3300uF	20%	80V (GRX80)
C843	1-136-165-00	FILM	0.1uF	5%	50V (GRX80)
C844	1-130-777-00	FILM	0.1uF	10%	100V
C851	1-126-963-11	ELECT	4.7uF	20%	50V
C852	1-162-290-31	CERAMIC	470PF	10%	50V
C853	1-162-282-31	CERAMIC	100PF	10%	50V
C854	1-104-665-11	ELECT	100uF	20%	10V
C857	1-136-495-11	FILM	0.068uF	5%	50V
C858	1-136-495-11	FILM	0.068uF	5%	50V
C859	1-128-560-11	ELECT	22uF	20%	100V
C881	1-126-967-11	ELECT	47uF	20%	50V
C891	1-127-811-11	ELECT	3300uF	20%	50V (GRX80)
C892	1-127-752-11	ELECT	3300uF	20%	63V (RXD8/RXD8S)
C892	1-127-814-11	ELECT	3300uF	20%	80V (GRX80)
C893	1-136-165-00	FILM	0.1uF	5%	50V (GRX80)
C894	1-130-777-00	FILM	0.1uF	10%	100V
C901	1-136-165-00	FILM	0.1uF	5%	50V
C902	1-126-936-11	ELECT	3300uF	20%	16V (RXD8/RXD8S)
C902	1-126-937-11	ELECT	4700uF	20%	16V (GRX80)
C903	1-126-933-11	ELECT	100uF	20%	16V
C904	1-104-664-11	ELECT	47uF	20%	16V
C905	1-104-665-11	ELECT	100uF	20%	10V
C906	1-136-165-00	FILM	0.1uF	5%	50V
C907	1-128-548-11	ELECT	4700uF	20%	25V
C909	1-126-964-11	ELECT	10uF	20%	50V
C910	1-104-665-11	ELECT	100uF	20%	10V
C911	1-126-964-11	ELECT	10uF	20%	50V
C912	1-126-926-11	ELECT	1000uF	20%	10V
C913	1-126-964-11	ELECT	10uF	20%	50V
C914	1-126-767-11	ELECT	1000uF	20%	16V
C915	1-104-664-11	ELECT	47uF	20%	16V
C916	1-162-306-11	CERAMIC	0.01uF	20%	16V
C917	1-126-933-11	ELECT	100uF	20%	16V (GRX80:E2,E3,EA3,SP,AR,TW,MX,AUS/RXD8/RXD8S)
C951	1-136-165-00	FILM	0.1uF	5%	50V
C952	1-126-768-11	ELECT	2200uF	20%	16V
C953	1-126-933-11	ELECT	100uF	20%	16V
C955	1-104-665-11	ELECT	100uF	20%	10V
C956	1-136-165-00	FILM	0.1uF	5%	50V

< CONNECTOR >

CN303	1-784-776-11	CONNECTOR, FFC 15P	
CN304	1-784-778-11	CONNECTOR, FFC 17P	
* CN371	1-568-832-11	SOCKET, CONNECTOR 13P	(GRX80:E2,AR,MX,AUS,EA4,TH)
CN371	1-568-834-11	SOCKET, CONNECTOR 15P	(GRX80:E3,EA3,SP,TW/RXD8/RXD8S)
* CN391	1-568-862-11	SOCKET, CONNECTOR 19P	

MAIN

Ref. No.	Part No.	Description	Remark
CN392	1-785-334-11	PIN, CONNECTOR (LIGHT ANGLE)8P	
CN393	1-785-335-11	PIN, CONNECTOR (LIGHT ANGLE)9P	
* CN403	1-564-518-11	PLUG, CONNECTOR 3P	
* CN501	1-568-841-11	SOCKET, CONNECTOR 25P	
		< DIODE >	
D141	8-719-911-19	DIODE 1SS119-25	
D191	8-719-911-19	DIODE 1SS119-25	
D331	8-719-911-19	DIODE 1SS119-25	
D333	8-719-911-19	DIODE 1SS119-25	
D334	8-719-911-19	DIODE 1SS119-25	
D335	8-719-911-19	DIODE 1SS119-25	
D401	8-719-911-19	DIODE 1SS119-25	
D403	8-719-911-19	DIODE 1SS119-25	
D405	8-719-024-99	DIODE 11ES2-NTA2B	
D406	8-719-024-99	DIODE 11ES2-NTA2B	
D407	8-719-024-99	DIODE 11ES2-NTA2B	
D411	8-719-911-19	DIODE 1SS119-25	
D501	8-719-911-19	DIODE 1SS119-25	
D502	8-719-911-19	DIODE 1SS119-25	
D503	8-719-911-19	DIODE 1SS119-25	
D504	8-719-911-19	DIODE 1SS119-25	
D505	8-719-911-19	DIODE 1SS119-25	
D506	8-719-911-19	DIODE 1SS119-25	
D509	8-719-911-19	DIODE 1SS119-25	
D607	8-719-911-19	DIODE 1SS119-25	
D644	8-719-911-19	DIODE 1SS119-25	
D801	8-719-911-19	DIODE 1SS119-25	
D802	8-719-118-97	DIODE RD16F-T7B2	
D803	8-719-911-19	DIODE 1SS119-25	
D831	8-719-302-37	DIODE RBV-602	
D832	8-719-060-53	DIODE RBV-2506 (GRX80)	
D851	8-719-911-19	DIODE 1SS119-25	
D852	8-719-118-97	DIODE RD16F-T7B2 (GRX80)	
D881	8-719-911-19	DIODE 1SS119-25	
D901	8-719-024-99	DIODE 11ES2-NTA2B	
D902	8-719-024-99	DIODE 11ES2-NTA2B	
D903	8-719-024-99	DIODE 11ES2-NTA2B	
D904	8-719-024-99	DIODE 11ES2-NTA2B	
D905	8-719-933-36	DIODE HZS6B1L	
D906	8-719-911-19	DIODE 1SS119-25	
D907	8-719-024-99	DIODE 11ES2-NTA2B	
D908	8-719-024-99	DIODE 11ES2-NTA2B	
D909	8-719-024-99	DIODE 11ES2-NTA2B	
D910	8-719-024-99	DIODE 11ES2-NTA2B	
D915	8-719-935-69	DIODE HZS11B1LTD	
D921	8-719-911-19	DIODE 1SS119-25 (GRX80)	
D922	8-719-911-19	DIODE 1SS119-25 (GRX80)	
D923	8-719-911-19	DIODE 1SS119-25 (GRX80)	
D924	8-719-024-99	DIODE 11ES2-NTA2B (GRX80)	
D925	8-719-024-99	DIODE 11ES2-NTA2B (GRX80)	
D971	8-719-200-82	DIODE 11ES2 (GRX80:EA4,TH)	
		< FERRITE BEAD >	
FB391	1-412-473-21	INDUCTOR 0UH	
FB392	1-412-473-21	INDUCTOR 0UH	

Ref. No.	Part No.	Description	Remark
		< IC >	
IC101	8-759-571-54	IC M62493FP	
IC181	8-759-634-51	IC M5218AP	
IC301	8-759-495-26	IC HA12215	
IC381	8-749-923-04	IC TOTX178 (CD DIGITAL OUT OPTICAL)	
IC501	8-759-571-18	IC M30622MA-A01FP	
IC502	8-759-635-63	IC M51943BSL	
IC801	8-749-015-37	IC STK411-240E (GRX80)	
IC801	8-749-015-46	IC STK407-100E (RXD8/RXD8S)	
IC901	8-759-604-86	IC M5F7807L	
IC902	8-759-231-53	IC TA7805S	
IC903	8-759-088-08	IC UPC7812AHF	
		< JACK >	
J101	1-774-411-11	JACK, PIN 6P (VIDEO/AUDIO IN, MD IN/OUT)	
J191	1-774-785-11	JACK, PIN 1P (GRX80)	
		< COIL >	
L381	1-410-521-11	INDUCTOR 100uH	
L392	1-410-521-11	INDUCTOR 100uH	
L401	1-420-872-00	COIL, AIR-CORE (RXD8/RXD8S)	
L451	1-420-872-00	COIL, AIR-CORE (RXD8/RXD8S)	
L501	1-410-509-11	INDUCTOR 10uH	
		< TRANSISTOR >	
Q111	8-729-119-78	TRANSISTOR 2SC403SP-51	
Q112	8-729-119-78	TRANSISTOR 2SC403SP-51	
Q113	8-729-141-30	TRANSISTOR 2SC3623A-LK	
Q161	8-729-119-78	TRANSISTOR 2SC403SP-51	
Q162	8-729-119-78	TRANSISTOR 2SC403SP-51	
Q163	8-729-141-30	TRANSISTOR 2SC3623A-LK	
Q181	8-729-141-30	TRANSISTOR 2SC3623A-LK	
Q191	8-729-141-30	TRANSISTOR 2SC3623A-LK (GRX80)	
Q192	8-729-900-63	TRANSISTOR DTA124ES (GRX80)	
Q201	8-729-900-36	TRANSISTOR DTC124ES	
Q251	8-729-900-36	TRANSISTOR DTC124ES	
Q331	8-729-118-00	TRANSISTOR 2SB1116-L	
Q332	8-729-900-80	TRANSISTOR DTC114ES	
Q333	8-729-118-00	TRANSISTOR 2SB1116-L	
Q334	8-729-900-80	TRANSISTOR DTC114ES	
Q335	8-729-900-80	TRANSISTOR DTC114ES	
Q336	8-729-116-59	TRANSISTOR 2SB1068TP	
Q337	8-729-045-21	TRANSISTOR 2SD1513TP-LK	
Q338	8-729-422-57	TRANSISTOR UN4111	
Q339	8-729-900-80	TRANSISTOR DTC114ES	
Q340	8-729-116-59	TRANSISTOR 2SB1068TP	
Q341	8-729-045-21	TRANSISTOR 2SD1513TP-LK	
Q342	8-729-422-57	TRANSISTOR UN4111	
Q343	8-729-900-80	TRANSISTOR DTC114ES	
Q401	8-729-119-77	TRANSISTOR 2SA1175-FEK	
Q402	8-729-111-29	TRANSISTOR 2SD1616A-K	
Q411	8-729-141-30	TRANSISTOR 2SC3623A-LK	
Q412	8-729-900-63	TRANSISTOR DTA124ES	
Q431	8-729-140-84	TRANSISTOR 2SC1841-PAFAEA	
Q432	8-729-140-82	TRANSISTOR 2SA988-PAFAEA	
Q433	8-729-140-84	TRANSISTOR 2SC1841-PAFAEA	

Ref. No.	Part No.	Description				Remark
Q434	8-729-140-84	TRANSISTOR	2SC1841-PAFAEA			
Q435	8-729-900-36	TRANSISTOR	DTC124ES			
Q436	8-729-119-77	TRANSISTOR	2SA1175-FEK			
Q437	8-729-119-79	TRANSISTOR	2SC2785-FEK			
Q439	8-729-119-79	TRANSISTOR	2SC2785-FEK			
Q471	8-729-141-30	TRANSISTOR	2SC3623A-LK			
Q501	8-729-119-78	TRANSISTOR	2SC403SP-51			
Q508	8-729-900-63	TRANSISTOR	DTA124ES			
Q509	8-729-900-63	TRANSISTOR	DTA124ES			
Q801	8-729-140-84	TRANSISTOR	2SC1841-PAFAEA			
Q803	8-729-140-82	TRANSISTOR	2SA988-PAFAEA			
Q804	8-729-140-84	TRANSISTOR	2SC1841-PAFAEA			
Q831	8-729-140-84	TRANSISTOR	2SC1841-PAFAEA			
Q832	8-729-119-79	TRANSISTOR	2SC2785-FEK			
Q851	8-729-140-84	TRANSISTOR	2SC1841-PAFAEA			
Q881	8-729-140-84	TRANSISTOR	2SC1841-PAFAEA			
Q901	8-729-209-15	TRANSISTOR	2SD2012			
Q902	8-729-119-78	TRANSISTOR	2SC403SP-51			
Q903	8-729-900-36	TRANSISTOR	DTC124ES			
Q904	8-729-900-36	TRANSISTOR	DTC124ES			
Q905	8-729-040-20	TRANSISTOR	RT1P137L-TP			
Q907	8-729-040-20	TRANSISTOR	RT1P137L-TP			
Q908	8-729-900-36	TRANSISTOR	DTC124ES			
Q909	8-729-026-68	TRANSISTOR	2SD2525(TP)			
Q913	8-729-119-78	TRANSISTOR	2SC403SP-51			
Q914	8-729-119-77	TRANSISTOR	2SA1175-FEK			
Q923	8-729-900-36	TRANSISTOR	DTC124ES			
Q951	8-729-141-83	TRANSISTOR	2SB1094-LK			
Q952	8-729-119-77	TRANSISTOR	2SA1175-FEK			
		< RESISTOR >				
R101	1-249-417-11	CARBON	1K	5%	1/4W	F
R102	1-249-417-11	CARBON	1K	5%	1/4W	F
R103	1-249-417-11	CARBON	1K	5%	1/4W	F
R111	1-249-429-11	CARBON	10K	5%	1/4W	
R112	1-247-895-00	CARBON	470K	5%	1/4W	
R113	1-247-894-11	CARBON	430K	5%	1/4W	
R114	1-249-415-11	CARBON	680	5%	1/4W	F
R115	1-249-433-11	CARBON	22K	5%	1/4W	
R116	1-247-887-00	CARBON	220K	5%	1/4W	
R117	1-249-429-11	CARBON	10K	5%	1/4W	
R118	1-249-437-11	CARBON	47K	5%	1/4W	
R119	1-249-421-11	CARBON	2.2K	5%	1/4W	F
R120	1-249-441-11	CARBON	100K	5%	1/4W	
R121	1-249-429-11	CARBON	10K	5%	1/4W	
R124	1-249-421-11	CARBON	2.2K	5%	1/4W	F
R125	1-247-843-11	CARBON	3.3K	5%	1/4W	
R126	1-249-421-11	CARBON	2.2K	5%	1/4W	F
R131	1-247-807-31	CARBON	100	5%	1/4W	
R132	1-247-807-31	CARBON	100	5%	1/4W	
R133	1-247-807-31	CARBON	100	5%	1/4W	
R141	1-249-433-11	CARBON	22K	5%	1/4W	
R142	1-249-433-11	CARBON	22K	5%	1/4W	
R143	1-249-417-11	CARBON	1K	5%	1/4W	F
R144	1-249-441-11	CARBON	100K	5%	1/4W	
R145	1-247-903-00	CARBON	1M	5%	1/4W	
R151	1-249-417-11	CARBON	1K	5%	1/4W	F
R152	1-249-417-11	CARBON	1K	5%	1/4W	F
R153	1-249-417-11	CARBON	1K	5%	1/4W	F
R161	1-249-429-11	CARBON	10K	5%	1/4W	
R162	1-247-895-00	CARBON	470K	5%	1/4W	
R163	1-247-894-11	CARBON	430K	5%	1/4W	
R164	1-249-415-11	CARBON	680	5%	1/4W	F
R165	1-249-433-11	CARBON	22K	5%	1/4W	
R166	1-247-887-00	CARBON	220K	5%	1/4W	
R167	1-249-429-11	CARBON	10K	5%	1/4W	
R168	1-249-437-11	CARBON	47K	5%	1/4W	
R169	1-249-421-11	CARBON	2.2K	5%	1/4W	F
R170	1-249-441-11	CARBON	100K	5%	1/4W	
R171	1-249-429-11	CARBON	10K	5%	1/4W	
R178	1-249-421-11	CARBON	2.2K	5%	1/4W	F
R181	1-249-429-11	CARBON	10K	5%	1/4W	
R182	1-249-417-11	CARBON	1K	5%	1/4W	F
R183	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R184	1-249-429-11	CARBON	10K	5%	1/4W	
R185	1-249-441-11	CARBON	100K	5%	1/4W	
R186	1-249-429-11	CARBON	10K	5%	1/4W	
R187	1-249-429-11	CARBON	10K	5%	1/4W	
R188	1-249-429-11	CARBON	10K	5%	1/4W	
R190	1-249-441-11	CARBON	100K	5%	1/4W	(GRX80)
R196	1-249-417-11	CARBON	1K	5%	1/4W	F (GRX80)
R197	1-249-441-11	CARBON	100K	5%	1/4W	(GRX80)
R198	1-249-417-11	CARBON	1K	5%	1/4W	F (GRX80)
R199	1-249-429-11	CARBON	10K	5%	1/4W	(GRX80)
R201	1-247-888-11	CARBON	240K	5%	1/4W	
R202	1-247-903-00	CARBON	1M	5%	1/4W	
R251	1-247-888-11	CARBON	240K	5%	1/4W	
R252	1-247-903-00	CARBON	1M	5%	1/4W	
R301	1-249-435-11	CARBON	33K	5%	1/4W	
R302	1-249-421-11	CARBON	2.2K	5%	1/4W	F
R303	1-247-807-31	CARBON	100	5%	1/4W	
R304	1-247-807-31	CARBON	100	5%	1/4W	
R305	1-249-421-11	CARBON	2.2K	5%	1/4W	F
R306	1-249-428-11	CARBON	8.2K	5%	1/4W	F
R307	1-249-428-11	CARBON	8.2K	5%	1/4W	F
R308	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R309	1-249-433-11	CARBON	22K	5%	1/4W	
R311	1-247-903-00	CARBON	1M	5%	1/4W	
R312	1-247-884-11	CARBON	160K	5%	1/4W	
R313	1-249-441-11	CARBON	100K	5%	1/4W	
R315	1-249-429-11	CARBON	10K	5%	1/4W	
R316	1-249-432-11	CARBON	18K	5%	1/4W	
R317	1-249-429-11	CARBON	10K	5%	1/4W	
R318	1-249-429-11	CARBON	10K	5%	1/4W	
R319	1-247-893-11	CARBON	390K	5%	1/4W	
R321	1-249-422-11	CARBON	2.7K	5%	1/4W	F
R322	1-249-428-11	CARBON	8.2K	5%	1/4W	F
R324	1-247-876-11	CARBON	75K	5%	1/4W	
R325	1-247-876-11	CARBON	75K	5%	1/4W	
R326	1-249-437-11	CARBON	47K	5%	1/4W	

MAIN

Ref. No.	Part No.	Description			Remark
R327	1-249-437-11	CARBON	47K	5%	1/4W
R328	1-249-437-11	CARBON	47K	5%	1/4W
R329	1-249-417-11	CARBON	1K	5%	1/4W F
R330	1-249-425-11	CARBON	4.7K	5%	1/4W F
R331	1-249-425-11	CARBON	4.7K	5%	1/4W F
R332	1-249-415-11	CARBON	680	5%	1/4W F
R333	1-249-421-11	CARBON	2.2K	5%	1/4W F
R334	1-249-415-11	CARBON	680	5%	1/4W F
R335	1-249-421-11	CARBON	2.2K	5%	1/4W F
R336	1-249-437-11	CARBON	47K	5%	1/4W
R337	1-249-417-11	CARBON	1K	5%	1/4W F
R338	1-249-411-11	CARBON	330	5%	1/4W
R339	1-249-437-11	CARBON	47K	5%	1/4W
R340	1-249-437-11	CARBON	47K	5%	1/4W
R341	1-249-411-11	CARBON	330	5%	1/4W
R342	1-249-437-11	CARBON	47K	5%	1/4W
R343	1-249-417-11	CARBON	1K	5%	1/4W F
R351	1-249-435-11	CARBON	33K	5%	1/4W
R352	1-249-421-11	CARBON	2.2K	5%	1/4W F
R353	1-247-807-31	CARBON	100	5%	1/4W
R354	1-247-807-31	CARBON	100	5%	1/4W
R355	1-249-421-11	CARBON	2.2K	5%	1/4W F
R356	1-249-428-11	CARBON	8.2K	5%	1/4W F
R357	1-249-428-11	CARBON	8.2K	5%	1/4W F
R358	1-249-425-11	CARBON	4.7K	5%	1/4W F
R359	1-249-435-11	CARBON	33K	5%	1/4W
R391	1-247-807-31	CARBON	100	5%	1/4W
R392	1-247-807-31	CARBON	100	5%	1/4W
R393	1-249-435-11	CARBON	33K	5%	1/4W
R394	1-249-435-11	CARBON	33K	5%	1/4W
R401	1-260-076-11	CARBON	10	5%	1/2W (RXD8/RXD8S)
R402	1-260-076-11	CARBON	10	5%	1/2W (RXD8/RXD8S)
R406	1-249-437-11	CARBON	47K	5%	1/4W
R407	1-249-437-11	CARBON	47K	5%	1/4W
R408	1-249-425-11	CARBON	4.7K	5%	1/4W F
R409	1-249-441-11	CARBON	100K	5%	1/4W
R410	1-249-421-11	CARBON	2.2K	5%	1/4W F
⚠R411	1-215-893-11	METAL OXIDE	1.5K	5%	2W F (RXD8/RXD8S)
⚠R411	1-216-482-11	METAL OXIDE	1.8K	5%	3W F (GRX80)
R413	1-249-402-11	CARBON	56	5%	1/4W F
R414	1-249-417-11	CARBON	1K	5%	1/4W F
R415	1-249-429-11	CARBON	10K	5%	1/4W
R416	1-249-437-11	CARBON	47K	5%	1/4W
R417	1-249-417-11	CARBON	1K	5%	1/4W F
R421	1-260-089-11	CARBON	150	5%	1/2W (RXD8/RXD8S)
R421	1-260-090-11	CARBON	180	5%	1/2W (GRX80)
R422	1-260-089-11	CARBON	150	5%	1/2W (RXD8/RXD8S)
R422	1-260-090-11	CARBON	180	5%	1/2W (GRX80)
R431	1-249-438-11	CARBON	56K	5%	1/4W
R432	1-249-437-11	CARBON	47K	5%	1/4W
R434	1-249-433-11	CARBON	22K	5%	1/4W
R435	1-249-435-11	CARBON	33K	5%	1/4W
R437	1-249-429-11	CARBON	10K	5%	1/4W
R438	1-249-429-11	CARBON	10K	5%	1/4W
R439	1-249-425-11	CARBON	4.7K	5%	1/4W F
R440	1-249-429-11	CARBON	10K	5%	1/4W
R441	1-249-435-11	CARBON	33K	5%	1/4W
R443	1-249-417-11	CARBON	1K	5%	1/4W F
R451	1-260-076-11	CARBON	10	5%	1/2W (RXD8/RXD8S)
R452	1-260-076-11	CARBON	10	5%	1/2W (RXD8/RXD8S)
R471	1-260-089-11	CARBON	150	5%	1/2W (RXD8/RXD8S)
R471	1-260-090-11	CARBON	180	5%	1/2W (GRX80)
R472	1-260-089-11	CARBON	150	5%	1/2W (RXD8/RXD8S)
R472	1-260-090-11	CARBON	180	5%	1/2W (GRX80)
R473	1-249-402-11	CARBON	56	5%	1/4W F
R474	1-249-417-11	CARBON	1K	5%	1/4W F
R481	1-260-089-11	CARBON	150	5%	1/2W (RXD8/RXD8S)
R481	1-260-090-11	CARBON	180	5%	1/2W (GRX80)
R482	1-260-089-11	CARBON	150	5%	1/2W (RXD8/RXD8S)
R482	1-260-090-11	CARBON	180	5%	1/2W (GRX80)
R483	1-260-089-11	CARBON	150	5%	1/2W (RXD8/RXD8S)
R483	1-260-090-11	CARBON	180	5%	1/2W (GRX80)
R484	1-260-089-11	CARBON	150	5%	1/2W (RXD8/RXD8S)
R484	1-260-090-11	CARBON	180	5%	1/2W (GRX80)
R501	1-249-413-11	CARBON	470	5%	1/4W F
R502	1-249-425-11	CARBON	4.7K	5%	1/4W F
R503	1-249-437-11	CARBON	47K	5%	1/4W
R504	1-249-437-11	CARBON	47K	5%	1/4W
R505	1-249-429-11	CARBON	10K	5%	1/4W
R508	1-249-421-11	CARBON	2.2K	5%	1/4W F
R509	1-249-441-11	CARBON	100K	5%	1/4W
R510	1-249-409-11	CARBON	220	5%	1/4W F
R521	1-249-437-11	CARBON	47K	5%	1/4W
R522	1-249-429-11	CARBON	10K	5%	1/4W
R523	1-249-427-11	CARBON	6.8K	5%	1/4W F (RXD8/RXD8S)
R523	1-249-431-11	CARBON	15K	5%	1/4W (GRX80:AUS)
R523	1-249-433-11	CARBON	22K	5%	1/4W (GRX80:E2,AR,MX)
R523	1-249-437-11	CARBON	47K	5%	1/4W (GRX80:EA3,EA4,TH)
R524	1-247-843-11	CARBON	3.3K	5%	1/4W (GRX80:EA4,TH)
R524	1-249-435-11	CARBON	33K	5%	1/4W (GRX80:EA3)

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Ref. No.	Part No.	Description			Remark
R524	1-249-437-11	CARBON	47K	5%	1/4W
		(GRX80:E2,AR,MX,AUS/RXD8/RXD8S)			
R527	1-249-429-11	CARBON	10K	5%	1/4W
R536	1-249-429-11	CARBON	10K	5%	1/4W
R550	1-247-843-11	CARBON	3.3K	5%	1/4W
R551	1-249-429-11	CARBON	10K	5%	1/4W
R567	1-247-807-31	CARBON	100	5%	1/4W
R568	1-249-429-11	CARBON	10K	5%	1/4W
R569	1-249-429-11	CARBON	10K	5%	1/4W
R570	1-249-429-11	CARBON	10K	5%	1/4W
R571	1-249-429-11	CARBON	10K	5%	1/4W
R577	1-249-429-11	CARBON	10K	5%	1/4W
R610	1-247-891-00	CARBON	330K	5%	1/4W
R617	1-249-429-11	CARBON	10K	5%	1/4W
R618	1-247-807-31	CARBON	100	5%	1/4W
R619	1-247-807-31	CARBON	100	5%	1/4W
R620	1-247-807-31	CARBON	100	5%	1/4W
		(GRX80:EA4,TH/RXD8/RXD8S)			
R621	1-247-807-31	CARBON	100	5%	1/4W
					(RXD8/RXD8S)
R622	1-249-425-11	CARBON	4.7K	5%	1/4W F
R626	1-247-807-31	CARBON	100	5%	1/4W
R627	1-247-807-31	CARBON	100	5%	1/4W
R629	1-247-807-31	CARBON	100	5%	1/4W
R630	1-247-807-31	CARBON	100	5%	1/4W
R632	1-247-807-31	CARBON	100	5%	1/4W
		(GRX80:E2,E3,EA3,SP,AR,TW,MX,AUS/RXD8/RXD8S)			
R633	1-247-807-31	CARBON	100	5%	1/4W
R635	1-249-413-11	CARBON	470	5%	1/4W F
R636	1-247-807-31	CARBON	100	5%	1/4W
R637	1-249-417-11	CARBON	1K	5%	1/4W F
R639	1-247-807-31	CARBON	100	5%	1/4W
R642	1-247-807-31	CARBON	100	5%	1/4W
R643	1-247-807-31	CARBON	100	5%	1/4W
R649	1-247-807-31	CARBON	100	5%	1/4W
R650	1-247-807-31	CARBON	100	5%	1/4W
R651	1-247-807-31	CARBON	100	5%	1/4W
R652	1-247-807-31	CARBON	100	5%	1/4W
R653	1-247-807-31	CARBON	100	5%	1/4W
R654	1-247-807-31	CARBON	100	5%	1/4W
R655	1-247-807-31	CARBON	100	5%	1/4W
R656	1-247-807-31	CARBON	100	5%	1/4W
R657	1-247-807-31	CARBON	100	5%	1/4W
R658	1-249-417-11	CARBON	1K	5%	1/4W F
R659	1-247-807-31	CARBON	100	5%	1/4W
R660	1-247-807-31	CARBON	100	5%	1/4W
R661	1-247-807-31	CARBON	100	5%	1/4W
R663	1-247-807-31	CARBON	100	5%	1/4W
R665	1-247-807-31	CARBON	100	5%	1/4W
R666	1-247-807-31	CARBON	100	5%	1/4W
R667	1-247-807-31	CARBON	100	5%	1/4W
R668	1-247-807-31	CARBON	100	5%	1/4W
R669	1-247-807-31	CARBON	100	5%	1/4W
R670	1-247-807-31	CARBON	100	5%	1/4W
R671	1-247-807-31	CARBON	100	5%	1/4W
R686	1-247-807-31	CARBON	100	5%	1/4W
R687	1-247-807-31	CARBON	100	5%	1/4W

Ref. No.	Part No.	Description			Remark
R688	1-247-807-31	CARBON	100	5%	1/4W
R689	1-247-807-31	CARBON	100	5%	1/4W
R690	1-247-807-31	CARBON	100	5%	1/4W
R691	1-247-807-31	CARBON	100	5%	1/4W
R801	1-249-417-11	CARBON	1K	5%	1/4W F
R802	1-249-438-11	CARBON	56K	5%	1/4W
R803	1-249-413-11	CARBON	470	5%	1/4W F
					(GRX80)
R803	1-249-414-11	CARBON	560	5%	1/4W F
					(RXD8/RXD8S)
R804	1-249-438-11	CARBON	56K	5%	1/4W
R805	1-249-417-11	CARBON	1K	5%	1/4W F
R806	1-249-431-11	CARBON	15K	5%	1/4W
R807	1-249-441-11	CARBON	100K	5%	1/4W
⚠R808	1-220-893-11	METAL	0.22	10%	5W
R809	1-260-076-11	CARBON	10	5%	1/2W
R810	1-215-872-11	METAL OXIDE	3.3K	5%	1W F
					(GRX80)
⚠R811	1-212-881-11	FUSIBLE	100	5%	1/4W F
⚠R812	1-202-972-61	FUSIBLE	1	5%	1/4W F
R813	1-249-435-11	CARBON	33K	5%	1/4W
R814	1-249-421-11	CARBON	2.2K	5%	1/4W F
R815	1-249-433-11	CARBON	22K	5%	1/4W
R816	1-249-429-11	CARBON	10K	5%	1/4W
R817	1-249-421-11	CARBON	2.2K	5%	1/4W F
R818	1-249-435-11	CARBON	33K	5%	1/4W
R819	1-249-439-11	CARBON	68K	5%	1/4W
R831	1-249-441-11	CARBON	100K	5%	1/4W
R832	1-249-441-11	CARBON	100K	5%	1/4W
R833	1-249-441-11	CARBON	100K	5%	1/4W
R842	1-249-441-11	CARBON	100K	5%	1/4W
R851	1-249-417-11	CARBON	1K	5%	1/4W F
R852	1-249-438-11	CARBON	56K	5%	1/4W
R853	1-249-413-11	CARBON	470	5%	1/4W F
					(GRX80)
R853	1-249-414-11	CARBON	560	5%	1/4W F
					(RXD8/RXD8S)
R854	1-249-438-11	CARBON	56K	5%	1/4W
R855	1-249-417-11	CARBON	1K	5%	1/4W F
R856	1-249-431-11	CARBON	15K	5%	1/4W
R857	1-249-441-11	CARBON	100K	5%	1/4W
⚠R858	1-220-893-11	METAL	0.22	10%	5W
R859	1-260-076-11	CARBON	10	5%	1/2W
R860	1-215-872-11	METAL OXIDE	3.3K	5%	1W F
					(GRX80)
⚠R861	1-212-881-11	FUSIBLE	100	5%	1/4W F
R881	1-249-435-11	CARBON	33K	5%	1/4W
R882	1-249-435-11	CARBON	33K	5%	1/4W
R892	1-249-441-11	CARBON	100K	5%	1/4W
R901	1-247-843-11	CARBON	3.3K	5%	1/4W
R902	1-249-415-11	CARBON	680	5%	1/4W F
R903	1-249-419-11	CARBON	1.5K	5%	1/4W F
R904	1-249-414-11	CARBON	560	5%	1/4W F
R905	1-249-425-11	CARBON	4.7K	5%	1/4W F
R906	1-247-843-11	CARBON	3.3K	5%	1/4W
R907	1-249-415-11	CARBON	680	5%	1/4W F
R908	1-249-429-11	CARBON	10K	5%	1/4W
R909	1-249-430-11	CARBON	12K	5%	1/4W

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

MAIN **MOTOR (SLIDE)** **MOTOR (TURN)** **PANEL**

Ref. No.	Part No.	Description			Remark
R911	1-249-409-11	CARBON	220	5%	1/4W F
R920	1-249-383-11	CARBON	1.5	5%	1/6W F
R921	1-249-383-11	CARBON	1.5	5%	1/6W F
R931	1-249-429-11	CARBON	10K	5%	1/4W
		< VARIABLE RESISTOR >			
RV301	1-238-600-11	RES, ADJ, CARBON 10K			
RV351	1-238-600-11	RES, ADJ, CARBON 10K			
		< RELAY >			
RY401	1-515-920-11	RELAY (GRX80:EA4,TH)			
RY401	1-755-168-11	RELAY (GRX80:E2,E3,EA3,SP,AR,TW,MX,AUS/RXD8/RXD8S)			
		< THERMISTOR >			
TH801	1-807-796-11	THERMISTOR			
		< TERMINAL >			
TM401	1-537-240-31	TERMINAL BOARD (CHECKER PIN)(SPEAKER) (GRX80)			
TM401	1-694-302-11	TERMINAL BOARD (CHECKER PIN) (RXD8/RXD8S)			
TM402	1-537-240-31	TERMINAL BOARD (CHECKER PIN) (SURROUND SPEAKER)			
		< VIBRATOR >			
X601	1-567-098-41	VIBRATOR, CRYSTAL (32.768kHz)			
X613	1-781-107-21	VIBRATOR, SERAMIC (16MHz)			
**********					
*	1-658-578-11	MOTOR (SLIDE) BOARD **********			
		< CAPACITOR >			
C801	1-162-306-11	CERAMIC	0.01uF	20%	16V
C804	1-162-306-11	CERAMIC	0.01uF	20%	16V
C805	1-126-964-11	ELECT	10uF	20%	50V
		< CONNECTOR >			
* CN801	1-568-947-11	PIN, CONNECTOR 9P			
		< DIODE >			
D801	8-719-921-48	DIODE MTZJ-T-72-5.6C (Malaysia PRODUCT)			
D801	8-719-109-89	DIODE RD5.6ESB2 (Indonesia PRODUCT)			
D804	8-719-911-19	DIODE 1SS119			
D805	8-719-911-19	DIODE 1SS119			
		< IC >			
IC801	8-759-274-09	IC BA6286N			
		< RESISTOR >			
R801	1-249-401-11	CARBON	47	5%	1/4W F
		< SWITCH >			
S801	1-762-527-11	SWITCH, ROTARY (OPEN/CLOSE)			
**********					

Ref. No.	Part No.	Description			Remark
*	1-658-577-11	MOTOR (TURN) BOARD **********			
		< CAPACITOR >			
C701	1-162-306-11	CERAMIC	0.01uF	20%	16V
C702	1-126-964-11	ELECT	10uF	20%	50V
C705	1-162-306-11	CERAMIC	0.01uF	20%	16V
		< CONNECTOR >			
CN703	1-750-413-11	CONNECTOR, FFC/FPC 8P			
CN704	1-506-469-11	PIN, CONNECTOR 4P			
		< DIODE >			
D701	8-719-983-66	DIODE MTZJ-T-72-3.6B (Malaysia PRODUCT)			
D701	8-719-109-69	DIODE RD3.6ES-B2 (Indonesia PRODUCT)			
		< IC >			
IC701	8-759-633-65	IC M54641L			
		< RESISTOR >			
R706	1-249-411-11	CARBON	330	5%	1/4W
R707	1-249-401-11	CARBON	47	5%	1/4W F
**********					
*	A-4417-643-A	PANEL BOARD, COMPLETE (RXD8/RXD8S) **********			
*	A-4417-650-A	PANEL BOARD, COMPLETE (GRX80:EA3) **********			
*	A-4417-660-A	PANEL BOARD, COMPLETE ********** (EXCEPT GRX80:EA3/RXD8/RXD8S)			
*	4-214-439-11	HOLDER, FL TUBE			
		< CAPACITOR >			
C601	1-124-589-11	ELECT	47uF	20%	16V
C602	1-126-163-11	ELECT	4.7uF	20%	50V
C603	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C604	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C605	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C608	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C610	1-124-589-11	ELECT	47uF	20%	16V
C611	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C612	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C614	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C615	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C616	1-126-157-11	ELECT	10uF	20%	16V
C617	1-164-182-11	CERAMIC CHIP	0.0033uF	10%	50V
C618	1-126-157-11	ELECT	10uF	20%	16V
C619	1-126-157-11	ELECT	10uF	20%	16V
C620	1-126-163-11	ELECT	4.7uF	20%	50V
C621	1-163-001-11	CERAMIC CHIP	220PF	10%	50V
C622	1-163-001-11	CERAMIC CHIP	220PF	10%	50V
C625	1-126-157-11	ELECT	10uF	20%	16V
C628	1-126-163-11	ELECT	4.7uF	20%	50V

Ref. No.	Part No.	Description			Remark
C629	1-124-589-11	ELECT	47uF	20%	16V
C630	1-126-157-11	ELECT	10uF	20%	16V
C631	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C632	1-124-589-11	ELECT	47uF	20%	16V
C633	1-107-725-11	CERAMIC CHIP	0.1uF	10%	16V
C634	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C701	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V (RXD8/RXD8S)
C702	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V (RXD8/RXD8S)
C703	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C711	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V (GRX80:EA3)
C712	1-163-019-00	CERAMIC CHIP	0.0068uF	10%	50V (GRX80:EA3)
C713	1-126-160-11	ELECT	1uF	20%	50V (GRX80:EA3)
C714	1-164-344-11	CERAMIC CHIP	0.068uF	10%	25V (GRX80:EA3)
C715	1-124-465-00	ELECT	0.47uF	20%	50V (GRX80:EA3)
C716	1-124-465-00	ELECT	0.47uF	20%	50V (GRX80:EA3)
C717	1-164-492-11	CERAMIC CHIP	0.15uF	10%	16V (GRX80:EA3)
C718	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V (GRX80:EA3)
C719	1-126-160-11	ELECT	1uF	20%	50V (GRX80:EA3)
C720	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V (GRX80:EA3)
C721	1-163-019-00	CERAMIC CHIP	0.0068uF	10%	50V (GRX80:EA3)
C722	1-164-344-11	CERAMIC CHIP	0.068uF	10%	25V (GRX80:EA3)
C723	1-124-589-11	ELECT	47uF	20%	16V (GRX80:EA3)
C724	1-163-038-91	CERAMIC CHIP	0.1uF		25V (GRX80:EA3)
C725	1-124-589-11	ELECT	47uF	20%	16V (GRX80:EA3)
C731	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C732	1-124-257-00	ELECT	2.2uF	20%	50V
C733	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C734	1-163-109-00	CERAMIC CHIP	47PF	5%	50V
C735	1-126-157-11	ELECT	10uF	20%	16V
C736	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C737	1-124-463-00	ELECT	0.1uF	20%	50V
C738	1-124-257-00	ELECT	2.2uF	20%	50V (GRX80:EA3)
C739	1-163-109-00	CERAMIC CHIP	47PF	5%	50V
C741	1-126-157-11	ELECT	10uF	20%	16V
C742	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C743	1-124-257-00	ELECT	2.2uF	20%	50V
C747	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C782	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C783	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C851	1-163-038-91	CERAMIC CHIP	0.1uF		25V

Ref. No.	Part No.	Description	Remark
		< CONNECTOR >	
* CN601	1-568-867-11	SOCKET, CONNECTOR 25P	
		< DIODE >	
D601	8-719-058-24	DIODE RB501V-40TE-17	
D608	8-719-074-27	DIODE SELUIE10CXM-LC(LEFT)	
D609	8-719-074-24	DIODE SELUD10CXM-LC (RIGHT)	
D611	8-719-071-41	DIODE SELS5923C-TP15 (SYNC EQ)	
D612	8-719-071-44	DIODE SELS5223C-TP15 (EFFECT)	
D613	8-719-071-41	DIODE SELS5923C-TP15 (SYNC BASS L)	
D614	8-719-071-41	DIODE SELS5923C-TP15 (SYNC BASS H)	
D615	8-719-063-93	DIODE SLR325VC-N-T32 (NON STOP)	
D619	8-719-056-13	DIODE SML79423C-TP15 (►II)	
D620	8-719-073-47	DIODE SML72923C-TP15 (PAUSE/START, REC	
D621	8-719-056-13	DIODE SML79423C-TP15 (AUTO BPM)	
D622	8-719-057-97	DIODE SEL5923A-TP15 (+/►►)	
D623	8-719-057-97	DIODE SEL5923A-TP15 (-/◄◄)	
D624	8-719-063-93	DIODE SLR325VC-N-T32 (JOG)	
D625	8-719-063-93	DIODE SLR325VC-N-T32 (ENTER/NEXT)	
D626	8-719-057-97	DIODE SEL5923A-TP15 (GROOVE)	
D627	8-719-057-97	DIODE SEL5923A-TP15 (PAD A)	
D628	8-719-057-97	DIODE SEL5923A-TP15 (PAD B)	
D629	8-719-057-97	DIODE SEL5923A-TP15 (BEAT ON/OFF)	
D630	8-719-057-97	DIODE SEL5923A-TP15 (BEAT JAM)	
D631	8-719-058-03	DIODE SEL5423E-TP15 (◄ (B DECK))	
D632	8-719-058-03	DIODE SEL5423E-TP15 (► (B DECK))	
D633	8-719-058-03	DIODE SEL5423E-TP15 (◄ (A DECK))	
D634	8-719-058-03	DIODE SEL5423E-TP15 (► (A DECK))	
D635	8-719-063-93	DIODE SLR325VC-N-T32 (TIMER SELECT)	
D701	8-719-976-99	DIODE DTZ5.1B (GRX80:EA3)	
		< GROUND PLATE >	
EP601	1-537-770-21	TERMINAL BOARD, GROUND	
		< FERRITE BEAD >	
FB601	1-414-234-22	INDUCTOR CHIP 0UH	
FB602	1-414-234-22	INDUCTOR CHIP 0UH	
		< FLUORESCENT INDICATOR >	
FL601	1-517-831-11	INDICATOR TUBE, FLUORESCENT	
		< IC >	
IC601	8-759-571-93	IC TMP88CS76F-6000	
IC602	8-749-011-05	IC GP1U28X	
IC603	8-759-083-77	IC BA3830F	
IC604	8-759-342-19	IC NJU3716M-T2	
IC605	8-759-577-80	IC MSM6654A-540GS-K	
IC711	8-759-496-41	IC M65850FP-E1 (GRX80:EA3)	
IC712	8-759-636-55	IC M5218AFP	
		< JACK >	
J701	1-785-569-11	JACK (SMALL TYPE)(HEADPHONES)	
J711	1-785-569-11	JACK (SMALL TYPE)(MIC 1)	

PANEL

Ref. No.	Part No.	Description			Remark
		< JUMPER RESISTOR >			
JR501	1-216-296-91	SHORT	0		
JR502	1-216-296-91	SHORT	0		
JR503	1-216-295-91	SHORT	0		
JR504	1-216-295-91	SHORT	0		
JR505	1-216-295-91	SHORT	0		
JR506	1-216-295-91	SHORT	0		
JR507	1-216-295-91	SHORT	0		
JR508	1-216-296-91	SHORT	0		
JR509	1-216-296-91	SHORT	0		
JR510	1-216-296-91	SHORT	0		
JR511	1-216-296-91	SHORT	0		
JR512	1-216-296-91	SHORT	0		
JR513	1-216-296-91	SHORT	0		
JR514	1-216-296-91	SHORT	0		
JR515	1-216-296-91	SHORT	0		
JR516	1-216-295-91	SHORT	0		
JR517	1-216-296-91	SHORT	0		
		< COIL >			
L601	1-412-029-11	INDUCTOR CHIP	10uH		
L602	1-412-032-11	INDUCTOR CHIP	100uH		
		< TRANSISTOR >			
Q601	8-729-118-00	TRANSISTOR	2SB1116-L		
Q602	8-729-118-00	TRANSISTOR	2SB1116-L		
Q603	8-729-119-78	TRANSISTOR	2SC403SP-51		
Q604	8-729-119-76	TRANSISTOR	2SA1175-HFE		
Q605	8-729-119-78	TRANSISTOR	2SC403SP-51		
Q607	8-729-900-36	TRANSISTOR	DTC124ES		
Q608	8-729-900-36	TRANSISTOR	DTC124ES		
Q610	8-729-900-74	TRANSISTOR	DTC143TS		
Q611	8-729-900-74	TRANSISTOR	DTC143TS		
Q612	8-729-900-74	TRANSISTOR	DTC143TS		
Q613	8-729-900-74	TRANSISTOR	DTC143TS		
Q614	8-729-900-74	TRANSISTOR	DTC143TS		
Q615	8-729-900-74	TRANSISTOR	DTC143TS		
Q616	8-729-900-74	TRANSISTOR	DTC143TS		
Q620	8-729-119-76	TRANSISTOR	2SA1175-HFE		
		< RESISTOR >			
R601	1-216-025-91	RES,CHIP	100	5%	1/10W
R602	1-216-073-00	METAL CHIP	10K	5%	1/10W
R603	1-216-025-91	RES,CHIP	100	5%	1/10W
R604	1-216-025-91	RES,CHIP	100	5%	1/10W
R605	1-216-073-00	METAL CHIP	10K	5%	1/10W
R606	1-216-017-91	RES,CHIP	47	5%	1/10W
R607	1-216-111-00	METAL CHIP	390K	5%	1/10W
R608	1-216-111-00	METAL CHIP	390K	5%	1/10W
R609	1-216-097-91	RES,CHIP	100K	5%	1/10W
R610	1-216-073-00	METAL CHIP	10K	5%	1/10W
R611	1-216-097-91	RES,CHIP	100K	5%	1/10W
R612	1-216-017-91	RES,CHIP	47	5%	1/10W
R613	1-216-085-00	METAL CHIP	33K	5%	1/10W
R614	1-216-113-00	METAL CHIP	470K	5%	1/10W
R616	1-216-121-91	RES,CHIP	1M	5%	1/10W

Ref. No.	Part No.	Description			Remark
R617	1-216-097-91	RES,CHIP	100K	5%	1/10W
R618	1-216-017-91	RES,CHIP	47	5%	1/10W
R619	1-216-043-91	RES,CHIP	560	5%	1/10W
R620	1-216-073-00	METAL CHIP	10K	5%	1/10W
R621	1-216-073-00	METAL CHIP	10K	5%	1/10W
R622	1-216-035-00	METAL CHIP	270	5%	1/10W
R623	1-216-037-00	METAL CHIP	330	5%	1/10W
R624	1-216-041-00	METAL CHIP	470	5%	1/10W
R625	1-216-043-91	RES,CHIP	560	5%	1/10W
R626	1-216-045-00	METAL CHIP	680	5%	1/10W
R627	1-216-049-91	RES,CHIP	1K	5%	1/10W
R628	1-216-051-00	METAL CHIP	1.2K	5%	1/10W
R629	1-216-055-00	METAL CHIP	1.8K	5%	1/10W
R630	1-216-059-00	METAL CHIP	2.7K	5%	1/10W
R631	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R632	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R633	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R634	1-216-073-00	METAL CHIP	10K	5%	1/10W
R635	1-216-077-00	METAL CHIP	15K	5%	1/10W
R636	1-216-073-00	METAL CHIP	10K	5%	1/10W
R637	1-216-035-00	METAL CHIP	270	5%	1/10W
R638	1-216-037-00	METAL CHIP	330	5%	1/10W
R639	1-216-041-00	METAL CHIP	470	5%	1/10W
R640	1-216-043-91	RES,CHIP	560	5%	1/10W
R641	1-216-045-00	METAL CHIP	680	5%	1/10W
R642	1-216-049-91	RES,CHIP	1K	5%	1/10W
R643	1-216-051-00	METAL CHIP	1.2K	5%	1/10W
R644	1-216-055-00	METAL CHIP	1.8K	5%	1/10W
R645	1-216-059-00	METAL CHIP	2.7K	5%	1/10W
R646	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R647	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R648	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R649	1-216-073-00	METAL CHIP	10K	5%	1/10W
R650	1-216-035-00	METAL CHIP	270	5%	1/10W
R651	1-216-037-00	METAL CHIP	330	5%	1/10W
R652	1-216-041-00	METAL CHIP	470	5%	1/10W
R653	1-216-043-91	RES,CHIP	560	5%	1/10W
R654	1-216-045-00	METAL CHIP	680	5%	1/10W
R655	1-216-073-00	METAL CHIP	10K	5%	1/10W
R656	1-216-035-00	METAL CHIP	270	5%	1/10W
R657	1-216-037-00	METAL CHIP	330	5%	1/10W
R658	1-216-041-00	METAL CHIP	470	5%	1/10W
R659	1-216-043-91	RES,CHIP	560	5%	1/10W
R660	1-216-045-00	METAL CHIP	680	5%	1/10W
R661	1-216-049-91	RES,CHIP	1K	5%	1/10W
R662	1-216-051-00	METAL CHIP	1.2K	5%	1/10W
R663	1-216-055-00	METAL CHIP	1.8K	5%	1/10W
R664	1-216-059-00	METAL CHIP	2.7K	5%	1/10W
R665	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R666	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R667	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R668	1-216-073-00	METAL CHIP	10K	5%	1/10W
R669	1-216-077-00	METAL CHIP	15K	5%	1/10W
R670	1-216-083-00	METAL CHIP	27K	5%	1/10W
R671	1-216-091-00	METAL CHIP	56K	5%	1/10W
R672	1-216-049-91	RES,CHIP	1K	5%	1/10W
R673	1-216-089-91	RES,CHIP	47K	5%	1/10W

Ref. No.	Part No.	Description			Remark
R674	1-216-049-91	RES,CHIP	1K	5%	1/10W
R675	1-216-073-00	METAL CHIP	10K	5%	1/10W
R676	1-216-089-91	RES,CHIP	47K	5%	1/10W
R677	1-216-089-91	RES,CHIP	47K	5%	1/10W
R678	1-216-073-00	METAL CHIP	10K	5%	1/10W
R680	1-216-073-00	METAL CHIP	10K	5%	1/10W
R681	1-216-073-00	METAL CHIP	10K	5%	1/10W
R682	1-216-073-00	METAL CHIP	10K	5%	1/10W
R683	1-216-073-00	METAL CHIP	10K	5%	1/10W
R684	1-216-073-00	METAL CHIP	10K	5%	1/10W
R685	1-216-073-00	METAL CHIP	10K	5%	1/10W
R686	1-216-097-91	RES,CHIP	100K	5%	1/10W
R687	1-216-097-91	RES,CHIP	100K	5%	1/10W
R688	1-216-073-00	METAL CHIP	10K	5%	1/10W
R689	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R691	1-216-097-91	RES,CHIP	100K	5%	1/10W
R692	1-216-097-91	RES,CHIP	100K	5%	1/10W
R693	1-216-097-91	RES,CHIP	100K	5%	1/10W
R694	1-216-097-91	RES,CHIP	100K	5%	1/10W
R695	1-216-097-91	RES,CHIP	100K	5%	1/10W
R696	1-216-097-91	RES,CHIP	100K	5%	1/10W
R697	1-216-097-91	RES,CHIP	100K	5%	1/10W
R698	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R699	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R701	1-216-017-91	RES,CHIP	47	5%	1/10W (GRX80:EA3)
R711	1-216-081-00	METAL CHIP	22K	5%	1/10W (GRX80:EA3)
R712	1-216-081-00	METAL CHIP	22K	5%	1/10W (GRX80:EA3)
R713	1-216-081-00	METAL CHIP	22K	5%	1/10W (GRX80:EA3)
R714	1-216-089-91	RES,CHIP	47K	5%	1/10W (GRX80:EA3)
R715	1-216-081-00	METAL CHIP	22K	5%	1/10W (GRX80:EA3)
R716	1-216-077-00	METAL CHIP	15K	5%	1/10W (GRX80:EA3)
R717	1-216-081-00	METAL CHIP	22K	5%	1/10W (GRX80:EA3)
R718	1-216-081-00	METAL CHIP	22K	5%	1/10W (GRX80:EA3)
R719	1-216-099-00	METAL CHIP	120K	5%	1/10W (GRX80:EA3)
R721	1-216-073-00	METAL CHIP	10K	5%	1/10W
R722	1-216-049-91	RES,CHIP	1K	5%	1/10W
R723	1-216-097-91	RES,CHIP	100K	5%	1/10W
R724	1-216-049-91	RES,CHIP	1K	5%	1/10W
R725	1-216-081-00	METAL CHIP	22K	5%	1/10W
R725	1-216-089-91	RES,CHIP	47K	5%	1/10W (GRX80:EA3)
R726	1-216-073-00	METAL CHIP	10K	5%	1/10W
R727	1-216-077-00	METAL CHIP	15K	5%	1/10W (GRX80:EA3)
R728	1-216-103-00	METAL CHIP	180K	5%	1/10W
R729	1-216-025-91	RES,CHIP	100	5%	1/10W
R751	1-216-029-00	METAL CHIP	150	5%	1/10W
R752	1-216-029-00	METAL CHIP	150	5%	1/10W
R753	1-216-029-00	METAL CHIP	150	5%	1/10W
R754	1-216-029-00	METAL CHIP	150	5%	1/10W
R758	1-216-022-00	METAL CHIP	75	5%	1/10W
R759	1-216-022-00	METAL CHIP	75	5%	1/10W
R760	1-216-022-00	METAL CHIP	75	5%	1/10W
R761	1-216-022-00	METAL CHIP	75	5%	1/10W
R762	1-216-029-00	METAL CHIP	150	5%	1/10W
R763	1-216-029-00	METAL CHIP	150	5%	1/10W
R764	1-216-019-00	METAL CHIP	56	5%	1/10W
R765	1-216-019-00	METAL CHIP	56	5%	1/10W
R766	1-216-029-00	METAL CHIP	150	5%	1/10W
R767	1-216-022-00	METAL CHIP	75	5%	1/10W
R768	1-216-029-00	METAL CHIP	150	5%	1/10W
R769	1-216-029-00	METAL CHIP	150	5%	1/10W
R770	1-216-029-00	METAL CHIP	150	5%	1/10W
R771	1-216-029-00	METAL CHIP	150	5%	1/10W
R772	1-216-029-00	METAL CHIP	150	5%	1/10W
R773	1-216-022-00	METAL CHIP	75	5%	1/10W
R775	1-216-029-00	METAL CHIP	150	5%	1/10W
R776	1-216-019-00	METAL CHIP	56	5%	1/10W
R777	1-216-025-91	RES,CHIP	100	5%	1/10W
R778	1-216-025-91	RES,CHIP	100	5%	1/10W
R780	1-216-073-00	METAL CHIP	10K	5%	1/10W
R781	1-216-029-00	METAL CHIP	150	5%	1/10W
R782	1-216-029-00	METAL CHIP	150	5%	1/10W
R783	1-216-073-00	METAL CHIP	10K	5%	1/10W
R784	1-216-081-00	METAL CHIP	22K	5%	1/10W
R785	1-216-081-00	METAL CHIP	22K	5%	1/10W
R786	1-216-049-91	RES,CHIP	1K	5%	1/10W
R787	1-216-095-00	METAL CHIP	82K	5%	1/10W
R788	1-216-089-91	RES,CHIP	47K	5%	1/10W
R789	1-216-095-00	METAL CHIP	82K	5%	1/10W
R790	1-216-055-00	METAL CHIP	1.8K	5%	1/10W

< VARIABLE RESISTOR >

RV711	1-225-739-11	RES, VAR 50K (GRX80:EA3)
RV712	1-225-739-11	RES, VAR 50K

< SWITCH >

S601	1-473-534-11	ENCODER, ROTARY (JOG/◀◀ ⟷ ▶▶)
S602	1-473-392-11	ENCODER, ROTARY (VOLUME)
S611	1-762-875-21	SWITCH, KEYBOARD (SYNC BASE)
S612	1-762-875-21	SWITCH, KEYBOARD (SYNC EQ)
S613	1-762-875-21	SWITCH, KEYBOARD (KARAOKE PON/MPX)
S614	1-762-875-21	SWITCH, KEYBOARD (NON STOP)
S615	1-762-875-21	SWITCH, KEYBOARD (SURROUND)
S616	1-762-875-21	SWITCH, KEYBOARD (DBFB)
S617	1-762-875-21	SWITCH, KEYBOARD (ENTER/NEXT)
S618	1-762-875-21	SWITCH, KEYBOARD (+/▶▶)
S619	1-762-875-21	SWITCH, KEYBOARD (-/◀◀)
S620	1-762-875-21	SWITCH, KEYBOARD (GROOVE)
S621	1-762-875-21	SWITCH, KEYBOARD (PAD B)
S622	1-762-875-21	SWITCH, KEYBOARD (BEAT SPEED)
S623	1-762-875-21	SWITCH, KEYBOARD (BEAT SEL)
S624	1-762-875-21	SWITCH, KEYBOARD (BEAT ON/OFF)
S625	1-762-875-21	SWITCH, KEYBOARD (REC)
S626	1-762-875-21	SWITCH, KEYBOARD (HI DVB)

Ref. No.	Part No.	Description	Remark
S627	1-762-875-21	SWITCH, KEYBOARD (CD SYNC)	
S628	1-762-875-21	SWITCH, KEYBOARD (PAD A)	
S629	1-762-875-21	SWITCH, KEYBOARD (BEAT MIX)	
S630	1-762-875-21	SWITCH, KEYBOARD (BEAT JAM)	
S631	1-762-875-21	SWITCH, KEYBOARD (BEAT LEVEL)	
S636	1-762-875-21	SWITCH, KEYBOARD (AUTO BPM)	
S637	1-762-875-21	SWITCH, KEYBOARD (FLASH)	
S638	1-762-875-21	SWITCH, KEYBOARD (P FILE MEMORY)	
S639	1-762-875-21	SWITCH, KEYBOARD (GEQ CONTROL)	
S640	1-762-875-21	SWITCH, KEYBOARD (FILE SELECT)	
S641	1-762-875-21	SWITCH, KEYBOARD (EFFECT)	
S642	1-762-875-21	SWITCH, KEYBOARD (TUNER/BAND)	
S643	1-762-875-21	SWITCH, KEYBOARD (▶II)	
S644	1-762-875-21	SWITCH, KEYBOARD (■)	
S645	1-762-875-21	SWITCH, KEYBOARD (B:▶)	
S646	1-762-875-21	SWITCH, KEYBOARD (B:◀)	
S647	1-762-875-21	SWITCH, KEYBOARD (A:▶)	
S648	1-762-875-21	SWITCH, KEYBOARD (A:◀)	
S649	1-762-875-21	SWITCH, KEYBOARD (FANCTION)	
S650	1-762-875-21	SWITCH, KEYBOARD (LOOP)	
S651	1-762-875-21	SWITCH, KEYBOARD (DISPLAY)	
S652	1-762-875-21	SWITCH, KEYBOARD (CLOCK/TIME SET)	
S653	1-762-875-21	SWITCH, KEYBOARD (TIME SELECT)	
S654	1-762-875-21	SWITCH, KEYBOARD (SPECTRUM ANALYZER)	
S655	1-762-875-21	SWITCH, KEYBOARD (REPEAT STEREO/MONO)	
S656	1-762-875-21	SWITCH, KEYBOARD (PLAY MODE DOLBY ON)	
S657	1-762-875-21	SWITCH, KEYBOARD (EDIT DIRECTION TUNER MEMORY)	
		< VIBRATOR >	
X601	1-781-312-11	VIBRATOR, CERAMIC (12.5MHz)	
X602	1-767-353-11	VIBRATOR, CERAMIC (4.98MHz)	

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*	1-658-576-11	SENSOR BOARD **********	
		< IC >	
IC702	8-749-924-18	IC PHOTO INTERRUPTER RPI-1391	
IC703	8-749-924-30	IC PHOTO REFLECTOR GP2S28	

****

*	A-4417-646-A	SUB TRANS BOARD, COMPLETE (RXD8/RXD8S) **********				
		< CAPACITOR >				
C11	1-126-768-11	ELECT	2200uF	20%	16V	
C12	1-161-494-00	CERAMIC	0.022uF		25V	
C13	1-126-933-11	ELECT	100uF	20%	16V	
C14	1-126-968-11	ELECT	100uF	20%	50V	
C15	1-164-159-11	CERAMIC	0.1uF		50V	
C16	1-126-948-11	ELECT	100uF	20%	35V	
⚠C21	1-113-925-11	CERAMIC	0.01uF	20%	250V	
		< CONNECTOR >				
CN11	1-564-321-00	PIN, CONNECTOR 2P				
* CN12	1-564-321-21	PIN, CONNECTOR 2P				
CN13	1-785-333-11	PIN, CONNECTOR (LIGHT ANGLE)7P				
		< DIODE >				
D11	8-719-911-19	DIODE 1SS119-25				
D12	8-719-210-21	DIODE 11EQS04				
D13	8-719-210-21	DIODE 11EQS04				
D14	8-719-210-21	DIODE 11EQS04				
D15	8-719-210-21	DIODE 11EQS04				
D16	8-719-911-19	DIODE 1SS119-25				
D17	8-719-024-99	DIODE 11ES2-NTA2B				
D18	8-719-024-99	DIODE 11ES2-NTA2B				
D19	8-719-024-99	DIODE 11ES2-NTA2B				
D20	8-719-024-99	DIODE 11ES2-NTA2B				
D21	8-719-986-60	DIODE HZS27-3LTA				
D22	8-719-109-63	DIODE RD3.0ESB2				
D23	8-719-911-19	DIODE 1SS119-25				
		< IC >				
IC11	8-759-450-47	IC BA05T				
		< TRANSISTOR >				
Q11	8-729-119-78	TRANSISTOR 2SC403SP-51				
Q12	8-729-040-19	TRANSISTOR RT1N137L-TP				
Q13	8-729-118-01	TRANSISTOR 2SB1116				
Q14	8-729-048-13	TRANSISTOR 2SC3616-KLM-T1				
Q15	8-729-048-13	TRANSISTOR 2SC3616-KLM-T1				
Q16	8-729-900-63	TRANSISTOR DTA124ES				
Q17	8-729-900-63	TRANSISTOR DTA124ES				
		< RESISTOR >				
R11	1-249-429-11	CARBON	10K	5%	1/4W	
R12	1-249-429-11	CARBON	10K	5%	1/4W	
R13	1-249-417-11	CARBON	1K	5%	1/4W	F
R15	1-249-429-11	CARBON	10K	5%	1/4W	
R16	1-247-807-31	CARBON	100	5%	1/4W	
R17	1-247-807-31	CARBON	100	5%	1/4W	
R18	1-247-807-31	CARBON	100	5%	1/4W	
R19	1-249-417-11	CARBON	1K	5%	1/4W	F
R20	1-247-807-31	CARBON	100	5%	1/4W	
		< RELAY >				
⚠RY11	1-755-276-11	RELAY, POWER				
		< TRANSFORMER >				
⚠T11	1-433-591-11	TRANSFORMER, POWER				

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*	1-672-474-11	TRANS BOARD **********				
		< CAPACITOR >				
C971	1-128-563-11	ELECT	100uF	20%	100V	(GRX80)
C972	1-126-960-11	ELECT	1uF	20%	50V	(GRX80)

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Ref. No.	Part No.	Description			Remark
C973	1-126-947-11	ELECT	47uF	20%	35V (GRX80)
		< CONNECTOR >			
CN901	1-564-524-11	PLUG, CONNECTOR 9P (RXD8/RXD8S)			
* CN901	1-564-527-11	PLUG, CONNECTOR 12P (GRX80)			
CN902	1-785-329-11	PIN, CONNECTOR (LIGHT ANGLE) 3P (GRX80)			
CN951	1-564-321-00	PIN, CONNECTOR 2P (GRX80)			
		< DIODE >			
D971	8-719-024-99	DIODE 11ES2-NTA2B (GRX80)			
D972	8-719-056-97	DIODE UDZ-TE-17-27B (GRX80)			
D973	8-719-056-74	DIODE UDZ-TE-17-3.0B (GRX80)			
		< FUSE >			
⚠F951	1-532-506-31	FUSE (T6.3AL/250V) (GRX80:E2,E3,EA3,SP,AR,TW,MX)			
⚠F952	1-532-465-31	FUSE (3.15A/250V) (GRX80:E2,E3,EA3,SP,AR,TW,AUS,EA4,TH)			
⚠F953	1-532-465-31	FUSE (3.15A/250V) (GRX80:E2,E3,EA3,SP,AR,TW,AUS,EA4,TH)			
⚠F961	1-532-505-31	FUSE (T5AL/250V)(GRX80)			
⚠F962	1-532-505-31	FUSE (T5AL/250V)(GRX80)			
⚠F963	1-533-949-31	FUSE, CYLINDRICAL (T8AL/250V)(RXD8/RXD8S)			
⚠F964	1-533-949-31	FUSE, CYLINDRICAL (T8AL/250V)(RXD8/RXD8S)			
		< FUSE HOLDER >			
FH951	1-533-233-21	HOLDER, FUSE (GRX80:E2,E3,EA3,SP,AR,TW,MX)			
FH952	1-533-233-21	HOLDER, FUSE (GRX80:E2,E3,EA3,SP,AR,TW,MX)			
FH953	1-533-233-21	HOLDER, FUSE (GRX80:E2,E3,EA3,SP,AR,TW,EA4,TH)			
FH954	1-533-233-21	HOLDER, FUSE (GRX80:E2,E3,EA3,SP,AR,TW,EA4,TH)			
FH955	1-533-233-21	HOLDER, FUSE (GRX80:E2,E3,EA3,SP,AR,TW,AUS)			
FH956	1-533-233-21	HOLDER, FUSE (GRX80:E2,E3,EA3,SP,AR,TW,AUS)			
FH961	1-533-233-21	HOLDER, FUSE (GRX80)			
FH962	1-533-233-21	HOLDER, FUSE (GRX80)			
FH963	1-533-233-21	HOLDER, FUSE (GRX80)			
FH964	1-533-233-21	HOLDER, FUSE (GRX80)			
FH965	1-533-233-21	HOLDER, FUSE (RXD8/RXD8S)			
FH966	1-533-233-21	HOLDER, FUSE (RXD8/RXD8S)			
FH967	1-533-233-21	HOLDER, FUSE (RXD8/RXD8S)			
FH968	1-533-233-21	HOLDER, FUSE (RXD8/RXD8S)			
		< TRANSISTOR >			
Q971	8-729-048-52	TRANSISTOR 2SA1932(TP)(GRX80)			
		< RESISTOR >			
⚠R951	1-219-120-11	FUSIBLE	0.15	5%	1/4W F (GRX80)
⚠R951	1-219-122-91	FUSIBLE	0.33	5%	1/4W F (RXD8/RXD8S)
⚠R952	1-219-120-11	FUSIBLE	0.15	5%	1/4W F (GRX80)
⚠R952	1-219-122-91	FUSIBLE	0.33	5%	1/4W F (RXD8/RXD8S)
⚠R953	1-219-119-81	FUSIBLE	0.1	5%	1/4W F (RXD8/RXD8S)
⚠R953	1-219-120-11	FUSIBLE	0.15	5%	1/4W F (GRX80)
R971	1-216-455-11	METAL OXIDE	560	5%	2W F (GRX80)
R972	1-216-085-00	METAL CHIP	33K	5%	1/10W (GRX80)
R973	1-216-073-00	METAL CHIP	10K	5%	1/10W (GRX80)
R974	1-216-025-91	RES,CHIP	100	5%	1/10W (GRX80)
R975	1-216-025-91	RES,CHIP	100	5%	1/10W (GRX80)
R976	1-216-085-00	METAL CHIP	33K	5%	1/10W (GRX80)
R977	1-216-085-00	METAL CHIP	33K	5%	1/10W (GRX80)
		< SWITCH >			
S951	1-771-291-11	SWITCH, POWER (VOLTAGE SELECTOR) (GRX80:E2,E3,EA3,SP,AR,TW)			
		< TRANSFORMER >			
⚠T951	1-433-556-11	TRANSFORMER, POWER (GRX80)			
⚠T951	1-433-557-11	TRANSFORMER, POWER (RXD8/RXD8S)			

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MISCELLANEOUS
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5	1-233-545-11	TUNER UNIT (EA4,TH)
5	1-233-545-14	ENCAPSULATED COMPONENT (E2,AR,MX,AUS)
5	1-233-546-13	ENCAPSULATED COMPONENT (E3,EA3,SP,TW)
5	1-693-443-11	TUNER UNIT (AEP,UK,G,CIS)
54	1-783-570-11	WIRE (FLAT TYPE)(19 CORE)
55	1-769-977-11	WIRE (FLAT TYPE)(13 CORE)
55	1-773-009-11	WIRE (FLAT TYPE)(15 CORE)(150mm)
56	1-773-024-11	WIRE (FLAT TYPE)(15 CORE)(320mm)
58	1-569-007-11	ADAPTOR, CONVERSION 2P (E3)
58	1-569-008-21	ADAPTOR, CONVERSION 2P (EA3,SP,TW)
58	1-770-019-11	ADAPTOR, CONVERSION PLUG 3P (UK)
⚠59	1-575-651-11	CORD, POWER (AEP,UK,G,CIS,EA3,SP,TW)
⚠59	1-575-653-11	CORD, POWER (E2,E3,MX,TH)
⚠59	1-690-608-11	CORD, POWER (AUS)
⚠59	1-783-721-11	CORD, POWER (EA4)
⚠59	1-783-941-21	CORD, POWER (GRX80:AR)
62	1-773-042-11	WIRE (FLAT TYPE)(17 CORE)
116	1-773-223-11	WIRE (FLAT TYPE)(25 CORE)
257	1-452-925-21	MAGNET ASSY
258	1-776-042-11	WIRE (FLAT TYPE) (8 CORE)
⚠301	8-820-020-02	OPTICAL PICK-UP KSS-213D/Q-NP
302	1-769-069-11	WIRE (FLAT TYPE) (16 CORE)
FL601	1-517-831-11	INDICATOR TUBE, FLUORESCENT
HP101	A-2056-681-A	DECK (A) ASSY, HEAD (230AWR2)
HP101	A-2056-681-B	DECK (A) ASSY, HEAD (230PWR2)
HRPE101	A-2056-682-A	DECK (B) ASSY, HEAD (230AWR2)
HRPE101	A-2056-682-B	DECK (B) ASSY, HEAD (230PWR2)

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Ref. No.	Part No.	Description	Remark
M1	A-2004-628-A	MOTOR ASSY, CAPSTAN	
M101	X-4917-523-3	MOTOR ASSY (SPINDLE)	
M102	X-4917-504-1	MOTOR ASSY (SLED)	
M701	A-4672-004-A	MOTOR ASSY	
M901	1-763-072-11	FAN, D.C.	
S811	1-473-335-11	ENCODER, ROTARY	
⚠T11	1-433-591-11	TRANSFORMER, POWER (RXD8/RXD8S)	
⚠T951	1-433-556-11	TRANSFORMER, POWER (GRX80)	
⚠T951	1-433-557-11	TRANSFORMER, POWER (RXD8/RXD8S)	

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****
HARDWARE LIST
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#1	7-685-871-01	SCREW +BVTT 3X6 (S)
#2	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S
#3	7-685-880-09	SCREW +BVTT 4X6 (S)
#4	7-685-650-79	SCREW +BVTP 3X16 TYPE2 IT-3
#5	7-685-852-04	SCREW +BVTT 2X5 (S)
#7	7-682-553-04	SCREW +P 3X20
#8	7-685-851-04	SCREW +BVTT 2X4 (S)
#9	7-628-254-15	SCREW +PS 2.6X6
#10	7-628-254-50	SCREW +PS 2.6X16
#11	7-685-861-01	SCREW +BVTT 2.6X5 (S)

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
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9-928-823-11

Sony Corporation
Home A&V Products Company

99B0971-1
Printed in Japan © 1999. 2
Published by Quality Assurance Dept.
(Shinagawa)